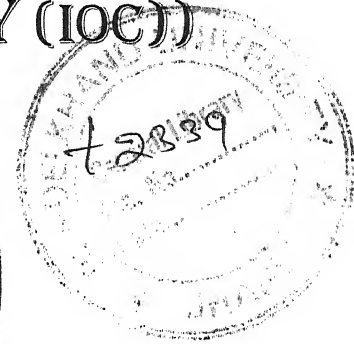# A STUDY OF

HUMAN RESOURCE ACCOUNTING

(A CASE STUDY OF BHEL JHANSI & MATHURA REFINERY (IOC))

Thesis Submitted For The Award Of The Degree Of Doctor of philosophy

(FACULTY OF COMMERCE)

AT

BUNDELKHAND UNIVERSITY JHANSI
2005

Supervision
Dr. D. C. Agarwal
Reader, Faculty of Commerce,
Bundelkhand (P.G.)College,
Convenor B.O.S. & Former Dean
Faculty of Commerce
Bundelkhand University Jhasnsi

By:
Aditi Dixit

Dr. D.C. Agrawal

➢ **Reader**
Faculty of Commerce
Bundhelkhand (P.G.) College
➢ **Convenor,**
Board of Studies and Research Degree Committees,
➢ **Academic Counsellor**
➢ **(F)Dean Faculty of Commerce**
Bundelkhand University Jhansi
➢ **(WCOEDP) Singapore, (ICO) (NEBAA) U.S.A.**

Ph.   (R) 91-0517-2442675
2481348
Fax : 0517-2451122
College: 2440562
Resi. : **KANCHAN KUTIR**
27/2 Panchkuiyan
Jhansi Pin –284002
(U.P.) India

CERTIFICATE

This is to certify:

1. *That the thesis embodies the work of the candidate, Km. Aditi Dixit, himself.*

2. *That the candidate worked under me for the period required under ordinance.*

3. *That he has put the required attendance's in my faculty during that period.*

20/9/2005

(Dr.D.C. Agarwal)

DECLARATION BY THE CANDIDATE

I declare that the thesis entitled "A study of Human Resources Accounting (A case study of BHEL Jhansi & mathura Refinery (IOC)" is my own work conducted under the supervision of Dr. D.C. Agarwal. The results presented in this study have not been submitted, in full or Part, in this or any other university for the award of any degree or diploma.
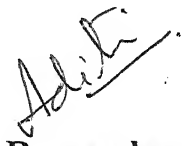
My indebtedness to other work / publications has been duly acknowledged at the relevant places.

Supervisor   **Researchers**
(*Dr D.C. Agarwal*)   *Aditi Dixit*
Reader, faculty of Commerce,
Bundelkhand P.G. College,
Convenor B.O.S. & Former Dean
Faculty of Commerce
Bundelkhand University
Jhansi

CONTENTS

PREFACE

The value of Human Resource depends upon the contribution in achieving organizational goals. However it is difficult to measure separately the contribution made by different assets to the output. The assets other then human are recorded at the cost incurred in getting the right to use and hold those assets as a surrogate measure of the value but human resources assets are deprived off this treatment although the periodic reporting principle make it obligatory to classify between revenue expenses and capital expenditures on the basis of there expected benefits, so as to show the capital expenditure as of the organization at the data of financial reporting and the match the current cost with the current benefits to show the profits to show the profits during the period being reported ,the expenditures incurred of human resource assets are charged from the income statement in the year of expenditure under the present practices.

This would have been correct, had there been correct, had there been no periodic reporting so that at the end of the venture whatever more in left is profit (less is loss). But due to the longer uncertain life of the business concerns, periodic reporting is necessary, hence the need for classifying between capital and revenue. To make the above objectively verifiable the accounts generally use historical cost by assuming the "Going Concern Concept."

The Going Concern Concept of accounting says that the principle of accounting can effectively be applied and used only when we assume that the business has a life, which is not definite if this, is so, one logical deduction can be that the job positions shall also continue for a period. which is not definite. That means the job positions held by humans are utilized by the organization for a longer period. It, therefore, can be concluded that benefits received by the

The identification of benefits and the cost involved in continuously getting these long term benefits are that major elements of Human Resource Accounting. The matching of the cost involved with the benefits from Human Resource in the relevant period and Capitalization of the residual costs are required for Financial reporting for which no model exists, which is generally acceptable of accounts. Many people accept while giving speeches that Human Resource Assets is the most important assets of the organization even then this assets could not find place in the Balance Sheet of companies, which is a contravention of the convention of disclosure.

Present worked *Chapter-I* discusses with the over all view of Human Resource Accounting and its present position, sets-out the objective and research methodology adopted, Limitation of Studies. *Chapter-II* discusses with the over all view of conceptual framer work of Human Resource Accounting & Critical evaluation of various models contributed by different scholars. *Chapter-III* discusses with the over all view of An analysis of human resources accounting practices regarding treatment of acquisition and development cost of human resources in Indian organization based on primary data & It also provides an analysis bases on secondary data regarding disclosure of value of human resource by organization in India and abroad *Chapter-VI* Analysis the perception of human resource by using primary data on the issues relating to human resources cost and value organizations under study. *Chapter-V* Analysis of training and development programmer with particular reference to benefit's in the forms of improvement in human resources and its impact on organizational performance the duration for which such benefit's last also forms parts of the analysis and This forms the basis of allocation of training and development cost over a period for which benefits are received by the organization .the chapter will be dealt with the current human resources development practice in sample organizations. *Chapter-VI* analysis of the intention, retention of human resources of the organizations for a long period

and the perception of the human resources in this regard and analysis of the satisfaction level of human resources with the efforts of the organization to retain them. *Chapter-VII* is related with the conclusion of research.

September 2005   *Aditi Dixit*

Jhansi

ACKNOWLEDGEMENT

In the preparation of this work I have received guidance, assistance and support from magnitude of people, too numerous to be enumerated here. Much I would have wished to thank each one of them, regret is only mine that I may not be able to do so on account of limits of spaces for each one of the I have my admiration.

I wish to heart-full gratitude to my supervisor, Dr. D.C. Agrawal, Reader, Faculty of Commerce, Bundelkhand P.G. College, Bundelkhand University, Jhansi who has been benevolent enough to help me in the completion of this research work. His deep understanding and penetrating analysis have contributed much to the correct approach to the subject.

I must also express my gratitude to my mother, my parents and the whole family for helping me in study work.

I am also grateful to all those officers of Department of BHEL, Jhansi and Muthura Refinary (Muthura). Who provided their help in giving their guidance, Co-operation and help in collecting the date for my present study.

September 2005

Aditi Dixit

Jhansi

ABBREVIATIONS

ACC	–	Associated Cement Companies Limited
Acq	–	Acquisition
A/C	–	Account
B/S	–	Balance Sheet
Co.	–	Company
Dev.	–	Development
Envirn.	–	Environment
GSMC	–	Government/Public Sector Manufacturing Company/ Organisation
GSSC	–	Government Public Sector Service Company/ Organisation
HR	–	Human Resource
HRA	–	Human Resource Accounting
ICAI	–	Institute of Chartered Accountant of India
LTC	–	Leave Travel Concession / Allowance
MECOM	–	Metallurgical and Enginnering Consultants (India) Limited
Org.	–	Organisation
P & L	–	Profit & Loss
Prog.	–	Programme
PSMC	–	Private Sector Manufacturing Company/Organisation
PSSC	–	Private Sector Service Company/Organisation
SAIL	–	Steel Authority of India Limited
SOL	–	Standard of Living
T & D	–	Training and Development
UK	–	United Kingdom
USA	–	United States of America
VRS	–	Voluntary Retirement Schemes

LIST OF TABLE

LIST OF GRAPHS

CHAPTER-I

INTRODUCTION:

- *Present position and background of the study, sets-out the objectives and research methodology adopted..*
- *Limitation of the study*
- *A few are as have been listed for future areas of research in the field of human resource accounting.*

CHAPTER-I

INTRODUCTION

The value of Human Resource depends upon the contribution in achieving organizational goals. However it is difficult to measure separately the contribution made by different assets to the output. The assets other then human are recorded at the cost incurred in getting the right to use and hold those assets as a surrogate measure of the value but human resources assets are deprived off this treatment although the periodic reporting principle make it obligatory to classify between revenue expenses and capital expenditures on the basis of there expected benefits, so as to show the capital expenditure as of the organization at the data of financial reporting and the match the current cost with the current benefits to show the profits to show the profits during the period being reported ,the expenditures incurred of human resource assets are charged from the income statement in the year of expenditure under the present practices.

This would have been correct, had there been correct, had there been no periodic reporting so that at the end of the venture whatever more in left is profit (less is loss). But due to the longer uncertain life of the business concerns, periodic reporting is necessary, hence the need for classifying between capital and revenue. To make the above objectively verifiable the accounts generally use historical cost by assuming the "Going Concern Concept."

The Going Concern Concept of accounting says that the principle of accounting can effectively be applied and used only when we assume that the business has a life, which is not definite if this, is so, one logical deduction can be that the job positions shall also continue for a period, which is not definite. That means the job positions held by humans are utilized by the organization for a longer period. It, therefore, can be concluded that benefits received by the

organization, from human acting as a resource holding different Job Positions, are for a longer period. The identification of benefits and the cost involved in continuously getting these long term benefits are that major elements of Human Resource Accounting. The matching of the cost involved with the benefits from Human Resource in the relevant period and Capitalization of the residual costs are required for Financial reporting for which no model exists, which is generally acceptable of accounts. Many people accept while giving speeches that Human Resource Assets is the most important assets of the organization even then this assets could not find place in the Balance Sheet of companies, which is a contravention of the convention of disclosure.

The study will be an attempt of analysis the perception of the human resources regarding various aspects of human resources accounting, interpret their perceptions, to suggest and recommend the changes required for further improvement in the field of accountancy. taking BHEL Jhansi Mathura Refinery(IOC).

There are a number of companies in India computing value of their human esources on the basis of a certain model. But out of which I have selected only two for study as follows: -

1. Bharat Heavy Electricales Ltd.(BHEL), Jhansi
2. Mathura Refinery (IOC)

and are incorporating this information in their published financial reports in the form of supplementary statement at the end.

BHARAT HEAVY ELECTRICALS LTD. (BHEL)

Generally, the productivity of investment in Public Enterprises (PEs) is known from the rate of return it gives. So far, these rates of productivity are considered in respect of physical assets investment only. But it is recognised fact, that human Resourcess play a pivotal part on the performances and that the good image which they enjoy is also determined by the sustained and dedicated efforts of its employees to. achieve cxcellence at work. Thus, there is a need to find out the productivity of investment made in the human Resourcess and, in this connection Human Resources Accounting (HRA) is quite helpful. The HRA is a scaling tool that generates and reports quantitative control information about the contribution of human Resourcess for promoting industrial productivity. It can help the management in taking many vital decisions relating to selection, layoff, transfers, training, promotion etc.

CURRENT ACCOUNTING PRACTICES

Current accounting practices for human Resourcess consider all costs incurred as a revenue expenditure. Typical balance sheet of an enterprise does not disclose human assets. In our conventional accounting practices, all expenses related to recruitment, training, familiarisation and development of human Resourcess are charged against the revenue of the relevant accounting period in which they are actually incurred. But in practice, these expenditures are incurred by an undertaking to get the benefit of the services of its human Resourcess in future. Thus, there is a need to capitalise these expenditures which should be shown in the balance sheet also. Keeping in mind the growing importance of human Resourcess in the productivity performance of the enterprise, efforts are being made to treat the human Resourcess as physical and financial assets.

A few selected U.S. Companies have tried for practical application of human Resources accounting for their human Resources. R.G. Barry Corporation[1] initiated to develop a usable system of human Resources accounting in 1966. The company developed a proforma balance sheet in which human Resources investments are reported during the period of its operation starting from 1969. In 1974, they discarded the system because the system was not economically viable. The Touché Ross and Co. a Big 8CPA, firm of Canada has also developed a system of accounting for investment in people[2]. It was also reported that M/s Lester Wittee and Co.[3], U.S.A. was trying to develop human Resources accounting system for accurate and specific information as to the Human Resources Management. Dr. Flamholtz was contacted to develop this system to provide human Resources value information. Similarly, the A.T.&T Company[4] and the Electronic Data[5] System have also adopted this system for their human Resources.

In India, most of the annual reports of companies contain the chairman speech of the concerned enterprise. The chairman of every company invariably remarks at the annual general meeting of the shareholders. 'Our employees are our most important assets and without their significant contribution, the present growth in the operations would not have been attained. I wish to place it on record my sincere gratitude for the hard work done by the employees of our company'. I thankfully "acknowledge the contribution made by our employees etc[6]. These qualitative pronouncement reflect the importance human Resources enjoy in an enterprise but the quantitative information relating to their contribution or their value is nowhere recorded or shown in the financial accounts. The annual reports of some companies contain information regarding the man-power employed, man hours lost and the associated loss of production, the human Resources productivity etc. Only few enterprises have been valuing their human Resources and reporting them in their annual reports. In the private sector enterprises, we can include the

---

[1] Pyle, WilliamC. *Human Resources Accounting,* Financial Analysts Journal, Sep., Oct.1970, pp.69-78.

[2] Alexander, Michael, O. *Investment in People,* Canadian Chartered Accountant, July 1971.

[3] Caplan, Edwin H., and Landkich Stephen. *Human Resources Accounting Past, Present and Future.* National Association of Accountants, New York, 1984, pp. 109-20.

[4] Flamholtz Eric C. Human Resources: Accounting : A Review of Theory and Research p. 58.

[5] Weiss Marvin, *Human Capital.: Asset or Liability?* Financial Executive, September, 1975.

[6] Industrial Times, July 7-20, 1986, *Human Resources Accounting is the System Practi£able,* p. 7.

name of Tata Engineering and Locomotive Works (TELCO), The Associated Cement Company (ACC), and Southern Petro Chemical Industries Corporation (SPIC) as the most important enterprises reporting the value of human Resources in their annual reports. However, Bharat Heavy Electricals Ltd. (BHEL), a public sector undertaking is the pioneer in this regard. Besides BHEL, some of other PEs like, Oil and Natural Gas Commission (ONGC), Cement Corporation of India (CO), Minerals and Metals Trading Corporation (MMTC), Hindustan Shipyard Ltd., Project and Equipment Corporation of India Ltd. (PEC). Engineers India, Ltd. (EIL), Electronics, India Ltd. have also started reporting, the value of human Resources.

MODELS FOLLOWED

These enterprises have been following the present value of future earning model for the valuation of human Resources employed by them. This model relates to the Lev and Schwartz (1971). However, the Cement Corporation of India have adopted the models of Lev and Schwartz (1971), Eric Flamholtz (1974) and Jaggi and Lau (1974) with necessary adjustments. Under the Lev and Schwartz model, economic concept of capital has been used to valuate the human Resources. The BHEL has also adopted this model in the valuation of human Resources. "The labour intensive characteristic of Hindustan Shipyard attracted the application of HRA system. In the valuation system, Stochastic process model has been followed to assess the human Resources value of Hindustan Shipyard. The reason for selecting this model is that many of the variables of the value subsystem are satisfied by its edificial nature"[7]. In this way, these companies have different modifications in their computation techniques. Besides they have lot of

---

[7] Prabhakara RaoD. *Human Resources Accounting,* Inter-India Publications, New Delhi, 1986, PI'.220-223. The Human Resources value of Hindustan Shipyard has been computed with the help of following model.

$$HRV = \sum_{t=1}^{n} \left(\frac{\sum_{i=1}^{m} RI}{(1+r)t} \right)$$

Where, HRV is the Human Resources Value, is the service state, Ri is the value of the service state; P is the probability that a person would remain in service state; p is time period; n is the number of time periods; m is the state of exit (separation) and $(1+r)^t$ is the discount factor.

subjectivity in making these calculations. This is largely due to the fact that " there is as yet no universally accepted method of human asset valuation."

BHARAT HEAVY ELECTRICALS LTD.

The performance of every enterprise is based in a large measure upon the quality of human Resources. This fact has been recognised in BHEL also. Among the PEs, BHEL is quite successful enterprise in all fronts. Some of the important dimensions of HRA have been discussed below.

The BHEL has employed a large number of people at different production units viz. Bhopal, Bangalore, Haridwar, Jhansi, Tiruchi, Ranipet, Jagdishpur and Hyderabad. In this way, BHEL. is a family of 75000 engineers, scientists, accountants, skilled workers and technicians and other ancillary and supporting staff. The composition of employees for five years is shown Table1.

Table 1

STATEMENT, SHOWING THE EMPLOYEES PROFILE

Particulars	1982-83	1983-84	1984-85	1985-86	1986-87
1 Executives	9410	9750	10346	10914	11185
2. Supervisors	11225	11900	12170	12188	12543
3. Artisans	27645	28155	27644	27953	28426
4. Supporting, technical Staff	4250	4175	4105	3934	3839
5. Clerical &: Office Supporting Staff	6120	6230	6263	6202	5699
6. Unskilled and Semi-skilled Staff	13100	14590	13936	13724.	13226
Total	**71750**	**74800**	**74464**	**74915**	**74918**

Over the last five years, the total strength incresed only by 4.4% from 71750 in 1982-83 to 74918 in 1986-87. Out of this, professionals, specialists, engineers and skilled workers representing the directly productive segment increased by 8%.

HUMAN RESOURCES PRODUCTIVITY

Among the PEs, BHEL has achieved the stature of a leader in its largely due to the fact that it has capacity to hold experienced and matured employees. Productivity tends improved due to growth in turnover and value added with more or less the

same number of employees.

Table 2

STATEMENT SHOWING PRODUCTIVITY OF HUMAN RESOURCESS

Particulars	1982-83	1983-84	1984-85	1985-86	1986-87
1. Turnover per employee (Rs./Lakhs) % age increase over last Year	1.67 22%	1.81 8%	1.99 8%	2.30 16%	2.66 16%
2. Value added per employees (Rs./Lakhs) % age increase over last Year	0.66 14%	0.75 14%	0.82 9%	0.84 14%	1.06 13%
3. Value added to personnel payments	3.07	2.95	2.84	2.88	2.88

Table 2 show that the value added per repee of wages went down mainly due to upward revision in personnel payments by way of ad hoc interim relief of employees.

PROGRAMMES FOR EMPLOYEES DEVELOPMENT

The BHEL conducts various specific/general training programmes for its employees at all levels. It has established well functioning institutes like Human Resources Development Institute, Advanced Technical Institutes, Welding Institute etc. for the overall development of its employees. In addition, quality circles have been established for improving the products and processes. No. of persons retrained under employees development programme has been indicated in.

Table 3

STATEMENT SHOWING EMPLOYEES DEVELOPMENT

Year	No. of persons retrained	Percent to total Strength
1982-83	17754	25
1983-84	21184	29
1984-85	23855	32
1985-86	30506	41
1986-87	33893	46

As indicated in Table 3, planned, in-house and external programmes are conducted aimed at improved skills and enhanced motivation both at the unit level and by HRDI at the corporate level. Areas of company concerns, like quality, inter-personal relationship employees morale and skill enhancement are specially emphasised. Specialised centres for training like HRDI, ATEC have been set-up to import advanced training to employees.

BHEI's compensation, package to its employees is among those offered by the excellent organisation in the public sector. The personnel payments to the employees and expenses on social welfare per employee is given below.

Table 4

STATEMENT SHOWING COMPENSATION TO EMPLOYEES

Particulars	1982-83	1983-84	1984-85	1985-86	1986-87
1. Emoluments per employee (Rs.) %age increase over last year	22000 16	25000 14	28500 14	32600 14	37800 16
2. Social overheads per employee %age increase over last year	2700 13	3300 22	3980 21	4600 16	5370 17

Table 4 shows that BHEL has been trying to project its image as model

employer. It is trying to pay attractive compensation packages to its employees. But at the same time, it has also incurred heavy amount as social overheads for the welfare of its employees.

HUMAN ASSET VALUATION

BHEL considers its employees as a human asset and in valuing this important asset it has been guided by the Lev & Schwartz[8] model with the following assumptions:

(i)   Total No. of posts in each grade remains fixed.

(ii)   Employees are promoted only when there is vacancy in higher grade and vacancies arise on promotion and retirement.

(iii)   All employees in a particular grade have equal preference for promotion and they do not supersede employees in higher grades.

(iv)   When an employee joins a new grade his salary is fixed at the minimum salary of that grade. An increment of 5% is given each year for 5 years.

(v)   Wcightage is also given for changes in efficiency of employees due to age, experience and skills.

(vi)   It is assumed that employees in non-executives grade do not rise above executive grade E-3.

(vii)   It is assumcd that employees in the un skilled & semi-skilled grades do not rise above supervisory grade.

---

[8] Lev and Schwartz model.

$$E(Vy) = \sum_{T=y}^{T} Py(t+1) \sum_{T=Y}^{t} \frac{Ii}{(I+r)^{t-y}}$$

Where –
E (Vy)	=	expected value of a person human capital who is y years old.
T	=	Person retirement age.
Py (t)	=	probability of the person leaving the organisation.
gl	=	Expected earning of the person in period 1.
r	=	discount rate

(viii) Some of the grades have been grouped in order to reduce total no. of grades to facilitate calculation.

(ix) Present value of future salaries is calculated assuming a discount factor of 12%.

FACTORS AFFECTING HUMAN RESOURCES VALUATION

Valuation of human Resourcess of any organisation has been affected by the following factors.

I. Employees' Classification

Practically all employees are not equally competent enough or skilled in all work, so it is natural that there is a classification, of employees into a number of grade/categories based on type of work, experience, qualification etc. It is necessary to note that too many classification would only complicate the valuation process of human Resourcess. Thus, it would be better to have only a number of grades/categories which should more or less cover all employees. BBEL adopts 6 categories namely, Executives, Supervisors, Supporting Technical Staff, Artisan, Clerical, Unskilled, Semi-skilled workers and 10-15 grades (in each category.

2. Employees Compensation

All the time of valuation of human asset employees' compensation package is also an important factor in determining the quantum of asset. Since compensation packages vary from year to year in each grade, it is necessary for the sake of convenience to keep the average salaries constant over the period of calculation. Further, as it is difficult to plot at what level in each grade a person is, mean of the grade is taken and an increment factor is given for 5 to 6 years. The compensation

package BHEL includes (1) 'Basic (mean of maximum and minimum in each grade) (ii) D.A. (iii) C.C.A. (iv) HRA (Lease, in case of executives), (v) benefits like provident fund, gratuity, other allowances etc.

To find the present value of future earnings of an employee it has to be discounted at a particular rate. The choice of rate can be as follows: (i) Bank rate on loans (either prime rate or working gap rate), (ii) Company return on capital employed (iii) Cost of capital. A risk free rate of return of 12% has been taken by BHEL for discounting the future earnings.

PROCEDURE FOR CALCULATING THE VALUE OF HUMAN ASSETS

The BHEL has bee adopting the following procedure in calculating the value of human asset.

(i)   Information on gradewise. agewise breakup from all units are collected and consolidated as a whole.

(ii)   A career chart is prepared based on the information relating to human asset. In this connection, for each grade & age group. retirement plan is computed i.e. the number of persons retiring in each grade at each age group.

(iii)   The retirement plan gives the vacancies available in, each grade. Employees just below the vacancy grade are considered for promotion. When there are no persons available then person from the next lower grade is utilized for promotion. Thus. a break up of employees in present grade into various upper grades are obtained. Those not promoted remain in the same grade.

(iv)   For the breakup of employees thus obtained the present value of salary is calculated using the following formula.

$$\text{Present value of salary of the grade} = \frac{P \times 12 \times N \times E \times l}{F}$$

In this fromula

Px12	=	Annual Salary
N	=	No. of employees in the grade
E	=	Efficiency factor
I	=	Increment factor
F	=	Present value factor

(v)   Value obtained with the help of above formula is added grade-wise which gives grade-wise, present value of human assets.

VALUE OF HUMAN ASSETS

The valuation of human assets as done by the BHEL is Indicated in the Table 5.

Table 5 shows that Artisans have maximum share (Rs. 5169 million) in the human asset value of the BHEL followed by executives which have a value of Rs. 3960 million at the end of 1986-87. Pladng position of each category of employees in the value human asset is remain. constant during the last 5 years. The table also indicates that the value of human Resources was more or less remain constant during the last 5 year i.e. 1982-87

Table 5

STATEMENT SHOWING VALUE OF HUMAN ASSETS

(Rs. in million)

Particulars	1982-83	1983-84	1984-85	1985-86	1986-87
1. Executives	2430 (26)	2600 (25)	2995 (25)	3580 (26)	3960 (25)
2. Supervisors	1600 (17)	1835 (18)	2190 (18)	2420 (18)	3121 (20)
3. Artisans	2930 (32)	3385 (31)	3840 (31)	4165 (31)	5169 (32)
4. Supporting Technical Staff	530 (6)	570 (6)	660 (5)	655 (5)	698 (4)
4. Clerical & Office supporting Staff	740 (8)	810 (8)	940 (7)	1000 (7)	1036 (7)
5. Unskilled & Semi-skilled Staff	1030 (11)	1150 (12)	1535 (14)	1755 (13)	1899 (12)
Total	**9250**	**10350**	**12160**	**13375**	**15883**

(figures in brackets indicates the respective percentage to 100)

APPLICATION OF HUMAN ASSETS

The BHEL on the one hand has stepped up payments to its employees and the sodal heads and on the other, the employees have given their best to improve productivity.

The overall position regarding improved production, turn over and value added has been indicated in Table 6.

Table 6

STATEMENT SHOWING APPLICATION OF HUMAN ASSET

(Rs. in million)

Particulars	1982-83	1983-84	1984-85	1985-86	1986-87
1. Value of Human Assets	9520	10350	12160	13575	15883
2. Fixed Assets (Net) at current cost	10242	10682	12143	13892	15390
3. Net current Assets at current cost	5137	3408	3928	3523	3860
4. Total Resouress at current cost	24629	24440	28231	30990	35133
Turnover	11792	13247	14818	17269	19939
Value Added	4788	5630	6019	6998	7922
Ratio of					
1. Turnover /Human Resources	1.28	1.28	1.22	1.27	1.26
2. Turnover /Fixed asset at current	1.15	1.24	1.22	12.24	1.30
3. Turnover / Total Resources	0.48	0.54	0.52	0.56	0.57
4. Value added / Human Resources	0.51	0.53	0.49	0.52	0.50
5. Value added/Fixed assets	0.46	0.51	0.50	0.50	0.51
6. Value added/Total Resources	0.19	0.22	0.21	0.23	0.23
7. Human Resources / Total Resources	0.38	0.42	0.43	0.44	0.45

" Table 6 shows that due to frequent Wage revisions, value added Per rupee of human capital, has an erratic trend. Similar trend is also available in the ratio of turnover to human Resources. However, ratio of human Resources to total Resources shows an improved position over the years. In this way, the human asset has a growing importance in the total Resources employed in the BHEL.

Thus, to sum up, we can say that PEs have already started reporting HRA in their annual reports as their counterpart in private sector. It is notable that most of

these PEs have not elaborated the purpose for which HRA information is used by them. But in case of BHEL, we can say that the company introduced the system of human asset accounting from 1974-75 in the capacity of image projection. However human asset information may be useful for the management in particular and for the investors and other external users in general. It is the duty .of the organisation concerned to report the 'investment in human asset in proper perspective and assess the contribution of employees in the well-being of the enterprise. At the same time, in order to make these valuations comparable and objective, there is urgent need for evolving a method which could be largely acceptable.

Thus, there is no doubt the HRA has vast potential in the modern era of professionalisation and particularly in case of labour intensive enterprises where human Resources play a major role. The PEs efforts in this direction really show their concern or their employees. But more PEs should be encouraged by the Government to come out, with this information in their annual reports.

MATHURA REFINERY (IOC)[9]

Indian Oil Corporation Ltd. is the largest commercial enterprise in India, the 7th largest petroleum company in the world and the only Indian presence in Fortune magazine's 'Global 500' listing of the world's largest corporations, with a ranking of 226 for fiscal 2001. In the Forbes International 500 list of largest companies outside US, Indian Oil is ranked 112 and tops the four Indian companies appearing in the listing. Indian Oil has also been ranked the `First' in Petroleum Trading amongst the 15 National Oil Companies in the region in the 2001 Industry Perception Survey conducted by Applied Trading Systems, Singapore.

Incorporated in 1959 as Indian Oil Company Ltd., it became a Corporation on 1st Sept,1964 when Indian Refineries Ltd. (Est.1958) was merged with the Company.

Indian Oil owns and operates seven of the country's 18 refineries at Guwahati, Barauni, Gujarat, Haldia, Mathura, Panipat and Digboi, with a combined capacity of 38.15 million metric tonnes per annum (MMTPA). A new 9 MMTPA Grass Root Refinery is being set up at Paradip in Orrisa. In addition, Indian Oil has two subsidiary companies, Chennai Petroleum Corporation Ltd. (CPCL) and Bongaigoan Refinery and Petrochemicals Ltd. (BRPL), with a combined refining capacity of 9.35 MMTPA thereby raising its total refining capacity to 47.50 MMTPA, the highest in the country today.

Indian Oil has the country's largest network of crude and product pipelines with a combined length of 6523 kms and 43.45 MMTPA capacity with sales of 47.17 million metric tonnes in 2001-2002. Indian Oil holds over 53% of the petroleum products market share in India. The extensive network of over 22,000 sales point is backed for supplies by 182 bulk storage points and 78 Indane bottling plants, 92 Aviation Fuel Stations cater to the Aviation industry, defence as

---

[9] Annual Reports of Mathura Refinery

Indian Oil has entered into memoranda of understandings/collaboration with reputed companies in India and abroad to take up projects of mutual interest.

An MOU has been signed between the Govt. of Andhra Pradesh and Kakinada IndianOil LNG Consortium (KIOLC) promoted by IndianOil, Petronas - Malaysia and Cocanada Port Co. Ltd., for setting up an LNG project at Kakinada in Andhra Pradesh.

Indian Oil is marketing diesel fuel additives for automobiles in collaboration with Elf Antar, France.

IndianOil and Air BP are collaborating in aviation fuelling business.

Indian Oil's investments in creation of assets will exceed Rs.40,000 crore over the decade beginning 1997. These investments, substantially funded from internal resources, will result in expansion and modernisation of existing capacities as well as creation of state-of-the-art facilities.

Indian Oil is an "academy" company with 18 Training Centres. The Indian Oil Institute of Petroleum Management (IIPM), Gurgaon, serves as an apex training and consultancy institute and conducts management development programmes in association with reputed national and international institutes. The Corporation proposes to offer a mid career two-year programme for graduation in Engineering and Technology at The IndianOil Management Academy (IMA), Haldia. IndianOil Management Centre for Learning (IMCL) recently set up in Mumbai will facilitate in upgrading the functional knowledge and skills of employees and also impart behavioural training.

For the past two decades, Indian Oil has been lending its expertise to several countries in areas of Refining, Marketing Transportation, Training and

well as civil. IBP Co. Limited, a stand alone marketing company and a subsidiary of IndianOil, has a nation wide network of over 1550 retail outlets.

Indian Oil's Research & Development Centre has been engaged in world class research in tribology (lubricants formulation), refinery processes and pipelines transportation. The Centre has developed over 2000 lubricant and grease formulations and obtained approvals of Original Equipment Manufacturers in India and abroad.

A wholly owned subsidiary , Indian Oil blending Ltd. manufactures over 450 grades of the country's leading **SERVO*** brand lubricants and greases.

In pursuit of its vision of becoming a `major, diversified, trans-national, integrated energy company with national leadership and the strong environment concerns, playing a national role in oil security and public distribution', Indian Oil is proactively identifying and developing business opportunities in Exploration and Production (E&P), Gas and Gas to Liquid, Petrochemicals, Power, Information Technology and Communications, collaborative R&D, Exports, Shipping, Training and Consultancy, Engineering and Construction, and Transnational operations.

12 joint ventures are now operational in partnership with some of the leading international and Indian companies.

IndianOil and ONGC, in a strategic alliance, are pooling their knowledge and resource base to exploit opportunities across the hydrocarbon value chain.

IndianOil, in a strategic alliance with CMC Ltd., is pursuing opportunities for application of IT in its business.

Research and Development. These include Srilanka, Kuwait, Bahrain, Iraq, Abu Dhabi, Tanzania, Ethiopia, Algeria, Nigeria, Nepal, Bhutan, Maldives, Malaysia and Zambia.

Indian Oil commitment to quality, safety, health and environment is reflected in the series of national and international certifications and awards earned over the years.

From the icy slopes of of Leh in the Himalayas to Kanyakumari where the Bay of Bengal and Arabian Sea join the Indian Ocean, and from the single Buoy Mooring at Salaya in the West to the Monasteries at Tawang in the East. IndianOil leaves in every heart and in every part of India.

Indian Oil, Bringing Energy to Life

🌼 A company, Indian Refineries Ltd., was set up in the year 1958 to refine crude oil. Another company, namely, Indian Oil Company Ltd., was incorporated in the year 1959 to market the products. In 1964, the refining Company and the marketing Company were merged and Indian Oil Corporation was born. In 1981 Assam Oil Company, a private sector oil company was nationalised and merged with Indian Oil Corporation Limited.

🌼 Indian Oil Corporation Limited has five Divisions, namely ;

🌼 Refineries Division

🌼 Pipelines Division

🌼 Marketing Division

🌼 Assam Oil Division

🌼 Research & Development Center

Indian Oil Blending Ltd. is a wholly owned subsidiary of Indian Oil Corporation and is engaged in the manufacture of lubricants and greases.

In addition, IndianOil has three subsidiary companies - Chennai Petroleum Corporation Ltd. (CPCL) , Bongaigoan Refinery and Petrochemicals Ltd. (BRPL) and IBP Co. Ltd.

The Corporation is managed by a Board of Directors. Besides the Chairman, the Board has the following full time Directors :

1. Director (Refineries)
2. Director (Marketing)
3. Director (Pipelines)
4. Director (R&D)
5. Director (Finance)
6. Director (HR)
7. Director (Planning & Business Development)

1.2 UNITS UNDER REFINERIES DIVISION

REFINERIES	YEAR OF COMMENCEMENT
Guwahati	1962
Barauni	1964
Gujarat	1965
Haldia	1975
Mathura	1982
Panipat	1998

Besides the above 6 Refineries, Digboi Refinery in AOD.

OTHER ESTABLISHMENTS
REFINERY HQRS. NEW DELHI
KOLKATA OFFICE
MUMBAI OFFICE

RATIONALISATION ADJUSTMENT ALLOWANCE:

The Rationalisation Adjustment Allowance is paid to Officers (upto Grade 'F' Officers) w.e.f 1.4.89 at the following rates:

Service range in regular scale	Rate per month(Rs.)
Less than 5 years	85/-
5 years & more but less than 12 years	110/-
12 years & more but less than 19 years	125/-
19 years & more	140/-

RATIONALISATION CUM SKILL UPDATION EXPENSES TO NON-OFFICERS w.e.f. 1.6.94.

Service in IOC	Rupees per month
Upto 5 years	235
Above 5 years & Upto 10 years	275
Above 10 years & Upto 15 years	325
Above 15 years	365

Whenever a workman crosses a particular slab of completed years of service and moves over to the next slab, the higher rate shall be paid/reimbursed.
places not connected by rail, the actual bus fare is admissible.

As a measure of social security in the post retirement period, a Scheme known as Superannuation Benefit Fund Scheme has been introduced in the Corporation. The Scheme is applicable to all the Officers and Workmen in the Refineries Division. The Scheme is also extended to the officers of AOD who are not covered by AOD Pension Scheme and all non-officers.

The rate of direct monthly contribution is as per the following Table and is determined by the age-group to which an employee belongs at the time of joining the Scheme. The rate once determined remains unchanged.

Age Group at the time of joining	Rate(% of BP + DA + NPA(wherever applicable)
Upto 38 years	2%
Above 38 years but less than 48 years	3%
Above 48 years but less than 53 years	4%
53 years and above	5%

A member is entitled to receive monthly cash payments after superannuation under the Scheme. The maximum benefit payable at present is 40% of the last salary drawn (i.e. BP, DA and NPA wherever applicable) based on reckonable service of full 32 years. For the service of less than 32 years, the benefit is proportionately less.

Reckonable service of an employee is determined by adding the period of Discounted service and service rendered after the effective date of the Scheme. (Discounted Service is the past service rendered and discounted by using the formula (1-d/100) x d where d is the length of past service.)

After the benefit has been worked out, the Annuity is purchased from LIC, who in turn makes monthly cash payments to the retired employees.

There are various options available under the scheme as under :

In addition to the above options, the member can also opt to commute 1/3 of the purchase price of the Annuity. The balance amount is paid to LIC towards purchase of annuity.

In case of death or permanent total disablement of a member employee while in service, the Scheme provides following options for rehabilitation of the distressed family. The option is to be exercised within a period of 6 months from the date of death/permanent total disablement.

Employees are paid productivity linked incentive on the basis of the respective performance of unit/office where posted, in accordance with laid down parameters and subject to the provisions of the scheme. The benefit under the scheme will not exceed 15% of the actual Basic Pay plus DA drawn by the employee in the relevant financial year.

PROMOTION POLICY OF OFFICERS (Gr.A to B & Gr.B to C)

GENERAL:

1. There shall be only one channel of promotion.

2. The marking system will be as follows :

PDA Report	- 45
Seniority	- 50
Educational Qualification	- 30
DPC	- 05
Total	**- 130**

➢ The manner of calculating marks for PDA for the last 3 years shall be as under :

Outstanding	- 45
Very Good	- 40
Satisfactory	- 30

➤ The marks for educational qualifications shall be assigned as per Annexure.

➤ To be eligible for consideration for promotion, the following two conditions shall apply :

    a) The concerned officer must have completed at least three calendar years of service in the present grade.

    b) The performance ratings for the last three years should be 'Satisfactory' or higher.

➤ For calculation of seniority marks, service upto 31st December of the calendar year previous to which the promotions are being made, shall only be counted.

➤ The Officer :

    a) should have clean record of service in the previous year;

    b) should not be undergoing any punishment awarded under disciplinary action; and

    c) should not have any vigilance case and/or disciplinary proceedings pending against him.

    d) In all other matters pertaining to promotions, the existing procedures and practices will continue.

➤ **SPECIFIC FOR PROMOTION FROM GRADE 'A' TO GRADE 'B'**

    a) The seniority marks will be assigned @ 1-1/4 marks for every full calendar quarter of service and also for the part calendar quarter with a minimum of 45 days of service in that quarter.

b) An officer shall be promoted to Grade 'B' on acquiring 85 (Eighty Five) or more marks based on the above factors.

c) Officers in grade "A" with minimum Matriculation Qualification or above who are otherwise not able to achieve the the promotion as per the cut-off marks shall be considered for promotion to grade "B" after completion of 7 (seven) calendar years of satisfactory service provided such officers have at least one "VERY GOOD" rating in grade "A" in the previous 5 (Five) Years.

d) For the purpose of promotion and career planning of officers, there will be flexibility of job responsibilities between Grade 'A' and Grade 'B' in all respects.

e) The total strength of vacancies/sanctions will be considered as one cluster.

f) An officer in Grade 'A' who is promoted to Grade 'B' may be required to continue with present/similar assignment.

> **SPECIFIC FOR PROMOTION FROM GRADE 'B' TO GRADE 'C'**

a) Five marks for every completed calendar year of service in the present scale shall be assigned for seniority. For this purpose, the seniority shall be reckoned from 1st January of the year in which the officer is promoted to Grade 'B' subject, however, to his/her having joined in Grade 'B' within 3 months of issue of promotion order. For every full completed calendar quarter of a year and also for the part calendar quarter with a minimum of 45 days of service in that quarter, 1.25 marks will be added. The maximum marks for seniority will be 50.

b) An officer shall be promoted to Grade 'C' on acquiring 87 (Eighty Seven) or more marks based on the above factors.

c) Officers in grade "B" with minimum Matriculation Qualification or above who are otherwise not able to achieve the the promotion as per the extant policy shall be considered for promotion to grade "C" after completion of 7 (seven) calendar years of satisfactory service provided such officers have at least one "OUTSTANDING" rating in grade "B" in the previous 5 (Five) Years.

Annexure

MARKS FOR EDUCATIONAL QUALIFICATIONS FOR PROMOTION FROM GRADE "A" TO "B" AND GRADE "B" TO "C"

1. Technical Department

- Degree in Engineering — 30
- M.Sc. from recognised University — 24
- Diploma in Engg./B.Sc. from a recognised University — 18*
- Intermediate in Science or its equivalent — 12
- Matriculation with ITI Certificate — 12
- Matriculation/Higher Secondary — 12
- Below Matric — 00

Refinery Laboratory

- Degree in Engg./M.Sc. Tech/Ph.D in Chemistry — 30
- M.Sc/AIC (By examination) — 24
- B.Sc. — 18
- I.Sc. — 12
- Matriculation/Higher Secondary — 06
- Below Matric — 00

II. Finance Department

- Chartered Accountancy/Cost Accountancy/MBA with   30
  Specialisation in Financial Management

- M.Com.   24

- Bachelor's Degree in Commence or in any other faculty   18

- Intermediate in Commerce or its equivalent   12

III. Personnel & Admn. Department

- MBA withspecialisation in Personnel Management & Industrial Relations /Master's Degree in Social Welfare or its equivalent/Graduate with Company Secretary/Ph.D in Management/Graduate with LL B.   30

- Master's Degree in any subject other than Personnel Management & Industrial Relations/Graduate in any faculty with Diploma in Personnel Management and or Industrial Relations or its equivalent.   24

- Graduate   18

- Intermediate   12

- Matriculation/Higher Secondary   06

- Below Matric   00

IV. Materials Department

- MBA with Specialisation in Materials Management or Degree in Engineering.
  30

- Post Graduate Degree from a recognised University   24

- Graduate with Diploma in Materials Management/ Diploma in Engg. with Diploma in Materials Management   24

- ➤ Graduate in any faculty from recognised University/Diploma in Engineering.

  18
- ➤ Intermediate

  12
- ➤ Matriculation/Higher Secondary

  06
- ➤ Below Matric

  00

V. Fire & Safety

- ➤ Degree in Engg/Advance Diploma of National Fire Service College,Nagpur or its equivalent.

  30
- ➤ Diploma in Engg. With Diploma of NFSC,Nagpur its equivalent/Degree with Diploma of NFSC or its equivalent.

  24**
- ➤ M.Sc from a recognised university

  24**
- ➤ Diploma in Enginering /Graduate in any faculty

  18**
- ➤ Intermediate

  12
- ➤ Matriculation/Higher Secondary

  06
- ➤ Below Matric

  00

VI. Systems/Computer Department

- ➤ MBA/MCA/MMS/BE/Graduate in Engg.CA/ICWA

  30
- ➤ M.Sc. or MA with Maths/Operational Research Statistics/Physics

  24
- ➤ BA/B.Sc. with Maths/Operational Research/Statistics/ Physics/Applied Science + Diplomain Computer Science (minimum 1 year) from recognised University/Institute.

  24
- ➤ BA/B.Sc with Maths/Operational Research/Statistics/ Physics/Applied Science or Post-Graduate in Commerce

  18
- ➤ BA/MA (other than mentioned above)

  12

VII. Public Relations

- Master's Degree in Communication/Journalism/MBA/MMS/Post-Graduation Degreein Social Welfare/MAwith Degree or Diploma in PR/Journalism/Advertising   30

- Post-Graduation/Graduation with Diploma in Journalism/ PR/Advertising or Graduations Communication/ Journalism   18

- Graduation   18

- Inter/Plus Two   12

- Matric/High School   06

- Non-Matric   00

* 6 additional marks for BOE subject to a maximum of 30 marks.

** 5 additional marks for duly recognised Diploma in Industrial Safety subject to maximum of 30 marks.

PURPOSES OF THE STUDY (OBJECTIVES)

The chief objective of the study is to present the Accountants with some thoughts on Human Resource Accounting which may provide a basis for accepting it for financial reporting purposes and using it for managerial decision-making. In order to meet the general objective of recognition of Accounting for human resources, Following will be the specific objectives of the study: -

- Identifying and measuring the capital cost involved in acquiring the rights to use the services of humans as a resource.
- Identifying and measuring the capital cost and long –term liabilities involved in retaining the right to use the services of humans as a resource.

- Identifying and measuring the periodic human resource expense and adding to the allocation of capitalized cost of human resource for matching it with the periodic revenue so as show rue and fair view of entity's periodic performance.

- Proper disclosure of capitalized cost and liabilities of human resource, duly adjusted with allocations and reductions in liabilities due to their maturities

- To evaluate the role of different approaches of human resource cost/value information on

  managerial decision-making.

HYPOTHESES

The basic Hypotheses upon which the present study will be based is that organizations consider Human Resource as Assets of the originations and incurs capital expenditures on,"Acquiring, developing and retaining Human Resources a part from incurring revenue expenses on them .In order to prove the basic assumption and to investigate objective, the following hypotheses would be taken into consideration.

- the organization intends to retains the existing Human Resource of the organization until the useful services life of the Human Resource.

- There exists a positive relationship between the decisions of the Human Resource to remain in the organization and the efforts of the organization in this regard.

- There exists a positive relationship between development of Human Resource by the organization and the benefits from these efforts.

- The accounting treatment of cost incurred on acquisition of Human Resource dose not comply to the principal of matching of cost and revenue.

- The accounting treatment of training and development cost incurred on Human Resource dose not satisfy the matching of cost and revenue principal of accounting.
- the accounting treatment of cost incurred in retaining the human resource is not compatible with The matching of cost and revenue principal of accounting.

RESEARCH METHODOLOGY

The study will be based primarily on the use of primary data generated through structured questionnaire and the personal interviews. The secondary data and information have been used mainly for the purpose of ascertaining the accounting practices have been used mainly for the purpose of ascertaining the accounting practices regarding valuations of human resources and their disclosure in the annual reports as additional information in India, and countries abroad, such as U.S.A, U.K and Australia. the questionnaire employed in the study for primary data is divided in to five parts which is briefly described below .

The first part will contain personal information about the respondent.

The second part will be dealt with the human resource cost and value. First nine question will pertain to the accounting practice being followed regarding human resource acquisition and development cost, and the next two to check the knowledge of accounting to ascertain that the respondents is worth including in the study or not. The last twenty question pertain to the perception of people about cost and value of human resource and their accounting treatment.

Part three deals with the various aspects of training and development of human resource it covers the policies facilities, procedure for identification of training needs, top management involvement rating, etc of training and development programmes examines the skill level of the respondent before and after attending the programme rated on five-point scale namely: -

Poor, average, good, very good and excellent covering twenty variables (skills) further this part also identifies the benefits of programmer accruing to the organization in terms of its impact on organization in terms of its impact on productivity and the duration for which the increased productivity, if any, is sustained over a period of time.

Part four examines the intention of the organization to retain human resource and perception of the Human Resource in this regard .it incorporates various requisition as variable of retention like: - housing, transport, LTC, Canteen etc; all the statement in this part require the respondent to answer on a five part require the respondent to answer on a five-point scale namely; strongly agree; moderately agree, agree moderately disagree, and strongly disagree.

The part will measures the degree of satisfaction the part of Human Resource on a five-point scale Namely: - strongly agree, moderately agree, moderately disagree, and strongly disagree, with respect to the compensation and other benefits given by the organization.

Perception of the people can not be measured precisely hence a non-parametric statistical test Namely chi-square will be used for analyzing and interpreting the data generated through structured Questionnaire and personal interviews. Chi-square test will be used to test whether there is significant difference of opinion between the respondents of four sectors or not. the scale five point scale to make the analysis easier.

The pie chart will be mainly used for the diagrammatical presentation by taking of figures from the last column namely, "total" and one pie chart shows the composition of responses pirating to one facet or variable shown in one table .the line chart will be in chapter five and will be explained there.

Sample classification

The sample selected has been classified in to four broad categories or sectors namly:

1) Public Sector services company / organisation (PSSC)

2) Government sector services company /organisation (GSSC)

3) Public Sector manufacturing Company / Organisation(PSMC)

4) Government sector manufacturing Company / Organisation(GSMC)

STATISTICAL TECHNIQUE

Perceptions of the people can not be measured Precisely hence a non- Parametric statistical test namely chi-square has been used for analyzing and interpreting the data generated through structured Questionnaire and personal interviews . Chi – square test has been used to test whether there is significant diffrance of opinion between the respondents of four sectors or not . The Scale index (mean) has been calculated to find the average score on five point scale to make the analysis easier.

DIAGRAMATICAL PRESENTATION

The pie chart has been mainly used for the diagramatical presentation by taking the figures from the last column namely, 'Total" and one pie chart shows the composition of responses pertaining to one facet or variable shown in one table.The line chart has been used in chapter five and has been explained there.

ADMINISTRATION OF THE QUESTIONNAIRE

The questionnaire was issued to the executives personally by the researcher with the assurance that the information and opinion expressed in this survey shall be exclusively used for research purposes only and shall be kept strictly confidential. The Primary data was collected from 2002-03 to 2004-05.

SAMPLE SIZE

In a study of this kinds , generalisations of results with a fair degree of validity are possible when the samples are drawn from different organizations spread out through the length and breadth of the country.However ,due to constraints of the resources and time sample was drawn from organisation located in BHEL Jhansi & mathura Refinery (IOC). And other cities like Delhi,Bhopal, Indore &uttar pradesh; Business organisation representing a wide range of activities such as manufacturing co.(computers, telephone); mining construction; and service activities (banking ,income- tax , education).These organisations were taken on the basis of judgment sampling in other make the study more representative. out of 428 questionnaires issued to the executives, 264 were received and out of these 225 were fully answered and useable for part-II and 125 useable for part-III, IV, V. The information related to part – I of the questionnaire is contained in Appedix-I. the response 52% cab be termed as satisfactory in view of experience of the earlier researchers.

LIMITATION & FUTURE AREA OF THE STUDY

There are certain limiting factors, which are inherent in a study of this nature, but these limitation do not detract the value of the study, rather, they should be taken to point out the precaution to be observed in analyzing the conclusion and recommendation.

- The study has not covered the entire population of or generation attempt will be made to study the character of the population through the limited sample coverage all the limitations of sample study applies to this study also.

- the study will be taken in to account for investigation only those variable which can be measured in terms of money for accounting treatment such as emolument and the perquisites The limitation is necessary because it is the limitation of financial accounting to for the sake of objectivity and verifiability.

Research is a continuous on going process and one researcher can only add a drop in the ocean. some of the possible areas of further research may be as follows:

1. Measurement of value of human resource by developing a model based on the contributions
   made by the Human Resource for the organization which they are serving.
2. Replication of this study in organization following purely Japanese style of in engagement
   particularly the lifetime employment aspect.
3. Replication of this study in organization following purely American style of management
   particularly the contractual appointment aspect

CHAPTER 1

CHAPTER SCHEME (OUT LINE)

INTRODUCTION:

- Present position and background of the study, sets-out the objectives and research
- methodology adopted.
- Limitation of the study
- A few are as have been listed for future areas of research in the field of human resource accounting.

CHAPTER 2

HUMAN RESOURCES ACCOUNTING CONCEPTS AND MODELS:

- A conceptual frame work of human resource accounting.
- Critical evaluation of various models contributed by different scholars.

CHAPTER 3

HUMAN RESOURCES ACCOUNTING PRACTICES:

a) An analysis of human resources accounting practices regarding treatment of acquisition regarding treatment of acquisition and development cost of human resources in Indian organization based on primary data.

b) It also provides an analysis bases on secondary data regarding disclosure of value of human resource by organization in India and abroad, such as U.S.A, U.K, and Australia

CHAPTER 4
HUMAN RESOURCES COST AND VALUE:

a) Analysis the perception of human resource by using primary data on the issues relating to human resources cost and value organizations under study.

CHAPTER 5
HUMAN RESOURCES DEVELOPMEN

- An analysis of training and development programmer with particular reference to benefit's in the forms of improvement in human resources and its impact on organizational performance the duration for which such benefit's last also forms parts of the analysis.

- This forms the basis of allocation of training and development cost over a period for which benefits are received by the organization .the chapter will be dealt with the current human resources development practice in sample organizations.

CHAPTER 6

HUMAN RESOURCES RETENTION:

- Analysis of the intention, retention of human resources of the organizations for a long period and the perception of the human resources in this regard.

- Analysis of the satisfaction level of human resources with the efforts of the organization to retain them.

CHAPTER 7

CONCLUSIONS:

- Summary of major findings and Recommendations

CHAPTER-II

HUMAN RESOURCES ACCOUNTING CONCEPTS AND MODELS:

- *A conceptual frame work of human resource accounting.*
- *Critical evaluation of various models contributed by different scholars.*

CHAPTER-II

HUMAN RESOURCE ACCOUNTING – CONCEPTS AND MODELS

The concept of Human Resource Accounting is still in the developing stage and there is a lot of thinking being done at different levels. Many scholars have contributed by way of developing models to measure the cost/value of Human Resource. These models can be classified in the following categories :

I. **Monetary Models**

A. Cost Based Models

B. Value Based Models

II. **Non-Monetary Model**

III. **Statistical Based Models**

I. **Monetary Models**

The models which incorporate the monetary aspect are called monetary models.

A. Cost Based Models

There are many cost based models which are given hereunder :

1. Acquisition cost method

Acquisition Cost or Historical Cost or Outlay Cost or Original Cost refers to the expenditure incurred by the Organisation in recruiting, hiring, training, familiarisation and developing human resources. It is just like the concept of original cost for other assets. The acquisition cost is capitalised and written off over the period for which the employee remains with the orgainsation. If the human asset leaves the organisation prematurely, the whole of the amount not written off is fully charged from the income of the current year. If the useful life is exceeds the original estimates, revisions are made in the amortisation schedule.

This model was first developed by william C. pyle assisted by R. Lee Brummet and Eric G. flamholtz and was implemented in R.G. Barry corproation[1], a leisure footwear manufacturer, Columbus, ohio (USA) in 1969 on an experimental basis which was discontinued later.

MERITS

a) It is simple and meets the test of principles of accounting i.e. it is only an extension of the concept of proper matching of cost and revenue.

b) The information required can be easily extracted from the existing records which reduces the time and cost involved.

c) The method is highly objective.

DEMERITS AND LIMITATIONS

a) It is difficult to estimate the number of years an employee will stay in the organisation leading to difficulty in estimating the number of years over which the capitalised expenditure is to be amortised.

---

[1] Flamholtz, Eric, "Human Resource Accounting", Dickenson Publishing Co., Califf, 1974.

b) There is no objective method to ascertain the rate of amortisation i.e. increasing, constant or decreasing.

2. REPLACEMENT COST MODEL

This method has been development by Eric G. Plamholtz[2] in 1973 on the basis of the concept first suggested by Rensis Likert[3]. Under this method value of an individual to an organisation is measured by the amount that the organisation would have to pay to replace him. There is a dual notion of replacement cost i.e. positional and personal .The former refers to the cost incurred to replace some one with a substitute capable of performing to the same degree in the same position while the later refers to the cost of replacing a person with a functionally equivalent substitute rather than the cost of replacing him with the best available substitute.

MERITS

a) It has the advantage of present oriented. It measures the current value of human resource taking into account the fluctuation of the job market and the general rise in price level.

b) It provides the upper limit of the value of the human resource in an organisation which is very relevant for planning and control purposes.

DEMERITS AND LIMITATION

a) It is practically not feasible to find identical personal replacement of existing human resource.

---

[2] Flamholtz, Eric, G., "Human Resource Accounting : Measuring Positional Replacement Costs", Human Resource Management Spring, 1973.

[3] Likert, Rensis, "The Human Organisation : Its Management and Value", McGraw Hill Book Co., New York, N.Y., 1967, pp 146-147.

b) The value calculated is highly subjective and is likely to differ from man to man.

c) This method is not compatible with the conventional accounting practices.

d) It is time consuming because information has to be gathered from outside the organisation specifically for this purpose.

e) The method is not very appropriate in imperfect market conditions arising due to tread union, politics, custom and tradition seniority and age, legal bindings etc.

3. OPPORTUNITY COST METHOD

Hekimian and Jones[4] proposed this method and defined opportunity cost as the value of an asset when there is an alternative use of it. They suggested a competitive bidding process by different divisions for the scarce employees in an organisation. The divisions bid amongst themselves for the services of the employee and he is allotted to the division making the highest bid. The successful bid price become part of the division's investment base.

MERITS

a) The bidding process provides for more optimal allocation of personnel and sets the quantitative base for managerial decision making regarding human resources.

DEMERITS AND LIMITATION

a) The concept of opportunity cost has been restricted to the next best use of employees within the same organisation.

---

[4] hekinian, James S., and Curtis H. Jones, "Put People on Your Balance Sheet", Harvard Business Review, January-February 1967, pp. 105-113.

b) This method excludes those employees who are not being bid by other departments which may be interpreted as discrimination leading to lowering the morale and productivity of the employees who are not covered by the competitive process.

c) Bidding is based on judgment of the manager and hence is subjective.

4. STANDARD COST METHOD

Standard costs of recruitment, placing, training and developing per grade of employee are calculated and made up to date every year. The standard costs so arrived at for all human resources are treated as the value of human resources for accounting purposes.

It provides easy implementation and avoids complications of replacement cost method. The variances between actual and standard can be analysed and forms a basis for control. But the limitations of replacement cost also applies to standard cost method.

5. CURRENT PURCHASING POWER METHOD (C.P.P.M.)

The capitalised historical cost of investment in human resources is converted into current purchasing power of money with the help of price index number's. if the index doubles than the value of human resource also doubles. The converted value becomes the value of human resource for amortisation in rest of the years. The increase or decrease is dealt in the same manner as in the case of replacement cost method.

The demerits of replacement cost method also applies to C.P.P.M.

B. VALUE BASED MODELS

1. HERMANSON'S UNPURCHASED GOODWILL METHOD

Roger H. Hermanson[5] as early as in 1964 in his occasional paper no. 14 development two models emphasising more on the "Unpurchased Goodwill Method" which he based on the superior or inferi earnings in enterprises, and giving the "Adjusted Present Value Method" as an alternative for valuing human resources.

The Unpurchesed Goodwill Method assumes that a business will ear a normal rate of return on resources. If a business shows return that is different form the normal rate, it may fairly presumed that some resources must be existing that have not been taken into account in preparing the Balance Sheet. These unrecorded resources are assumed to represent human assets.

MERITS

a) The method is not expensive because it uses the information contained in the existing records of the organisation.

b) It is and objective method.

DEMERITS AND LIMITATIONS

a) No recognition is given to Human Resources needed to generate normal earning. Only those Human Resources that an assumed to contributed to deviate from normal earnings are taken into account.

---

[5] Hermanson , Roger H. "Accounting for Human Assets", Occasional Paper No. 14 Graduate School of Business Administration, Michingan State University, 1964.

b) Earnings of the previous year are used as a surrogate from future earnings in order to determine economic value. The degree of reliability will depend upon the correlation between past earnings and future earnings which may not be very high.

c) The calculation requires data from both the firm itself and the rest of the organisations in the industry which is very time consuming.

2. HERMANSON'S ADJUSTED DISCOUNT FUTURE WAGES MODEL

This model[6] is based on the assumption that a relationship exists between a person's salary and his value to the organisation. It uses compensation as a surrogate measure of a person's value to the organization . compensation means the present value of the future stream of wages or salaries to Human Resource of the Organisation. The discounted future wage stream is adjusted by an efficiency ratio which is the weighted average ratio of the return on investment of the given firm to all the firms in the economy for a specified period, Usually the current year and the preceding four years. The weights are assigned in the reverse order i.e. highest 5 to the current year and 1 to the preceding fourth year. The efficiency ratio measures the efficiency of Human Resource operating in a firm over a period of five years. A ratio greater than 1 indicates that the average rate of return for a firm is above the average rate for all the firms in the industry and vice-versa of less than 1.

---

[6] i.b.i.d.

MERITS

a) The efficiency ratio provides a basis for adjustment in the compensation by using the efficiency ratio.

DEMERITS AND LIMITATION

a) The efficiency ratio is subjective.

b) The valuation period of five years and the weighting scheme has no justification and is purely arbitrary.

3. LEV AND SCHWARTZ PRESENT VALUE OF FUTURE EARNINGS MODEL

Brauch lev and Aba Schwartz' in 1971 developed a model defining "the value of human capital embodied in a person of age x is the present value of his remaining earnings from employment". The model divides the whole labour force into certain homogeneous groups us as unskilled, semi-skilled, skilled, technical staff, managerial staff, etc. average earning stream for different classes and age groups are prepared for each group separately and the present value for human capital is calculated. The total present value of different groups represent the capitalised future earnings of the firm as a whole. The use of cost of capital rate for the purpose of capitalising the present value of the future earnings of the Human Resource is made.

---

[7] Lev, Baruch and A.B.A. Schwartz, "On the Use of the Economic Concept of Human Capital in Financial Statement: A Reply", The Accounting Review Janunary, 1972, pp. 103-112.

MERITS

a) The model is an advancement over Hermansos's Adjusted future wages model.

b) The model provides very useful information about changes in the structure of the Human Resource. The ageing of a firm's labour force may account for a slower rate of growth as against another firm with a younger labour force.

DEMERITS

a) The model does not take into account the possibility of an individual leaving the organisation other than death or retirement.

b) The model ignores the aspect of promotion or role changes within the organisation.

c) There is inherent subjectivity involved in determining the discount rate, length of expected employment within the organisation and determination of the level of future salary.

d) The valuation done on the basis of remuneration which the individual is expected to get irrespective of his capabilities, skill, experience, bargaining capacity and other environmental factors may not measure the true value.

e) There is no evidence that a significant relationship exits between individual's value and his earnings.

4. FLAMHOLTZ'S STOCHASTIC REWARED VALUATION MODEL

Eric G. Flamholtz[°] in 1971 developed a model in which he determined the value by aggregating the present value of expected future services of employees taking into consideration the probability of each employee working in different positions at different intervals. The movement of people from one oganisational role to another is a stochastic process with rewards. The model takes into account both the monetary and non-monetary variables as the monetary value of an individual depends upon many qualitative (non-monetary) variables. The model links the competence and activation levels of employees with the reward system that affect productivity and work satisfaction as well. The variables of promotability and organisational membership are also considered with the help of statistical probability estimates to determine the realisable value of an employee to the organisation.

MERITS

a) The model is an improved concept over the Lev and Schwartz model.

b) The model is a composite model consisting of both monetary and non-monetary variables.

DEMERITS AND LIMITATION

a) It is an expensive and complicated model.

b) The model does not take into account the added value element of individuals operating as a group.

c) The model is not able to overcome the limitation of subjectivity as in the case of Lev and Schwartz.

---

[8] Flamholtz, Eric G. "A Model for Human Resource Valuation. A stochastic Process with Service Rewards", The Accounting Review, April, 1971.

5. JAGGI AND LAU'S HUMAN VALUATION MODEL

The problem of predicting the expected tenure or promotion changes of individual employees was the catalyst for Bikki Jaggi[9] and Hon Shiang Lau in suggesting the valuation of Human Resources on a group basis (1974). Hence Flamholtz's model in a way was restated by using groups instead of individuals by Jaggi and Lau. By group they meant homogeneous group of employees who may not necessarily be working in the same department. It became easier to ascertain the percentage of people in a particular group likely either to leave the firm during each of the forthcoming periods or be promoted to higher levels. This concept assumes that the pattern of movement is likely to remain constant overtime. The probabilities determined for one period are extended to future periods. To consider the career movements of the employees within the organisation and the chances of their retirement or death, markov Chain Representation is suggested by Jaggi and Lau.

MERITS

a) This model overcomes the drawbacks of the Flamholtz's Stochastic Rewards Valuation Model by taking homogeneous groups instead of individual.

b) The preparation of transition matrix from historical personnel records ensures objectivity to some extent.

DEMERITS AND LIMITATION

a) The model is complex and expensive.

b) The model is not useful for decision making about individual human resource which is very important feature of Flamholtz's model.

---

[9] Jaggi, Bikki and Hon Shiang Lau, "Towards a Model for Human Resource Valuation", Accounting Review, April, 1974 pp. 321-329.

6. ROBBINSON'S HUMAN ASSET MULTIPLIER METHOD

W.J. Giles and D.'" Robbinson were sponsored by Institute of Personnel Management and the Institute of cost and Management Accountants, London to produce a report on Human Asset Accounting and they developed a measurement method known as "Hunan Asset Multiplier Method". It advocates the use of a multiplier which when applied to earnings of Individual provides a current valuation last reported company earning into market capitalisation. After deducting the amount of net assets from the capitalised value, the balance is assumed to represent the value of Human Resources.

MERITS

a) It is very easy and inexpensive method.

b) The method provides data for periodic human asset balance sheet and profit and loss account and human asset profiles and projection of the organisation.

DEMERITS AND LIMITATIONS

a) Objectivity and reliability is totally sacrificed as infinite range of possible values can be chosen.

b) The weighting factor which forms the foundation of the method has no conceptual basis hence no single value can be substantiated.

---

[10]Giles, W.J. and D.f. Robinson, "Human Asset Accounting", Institute of Personnel Management and institute of Cost and Management Accounting, London, 1972.

7. WATSON'S RETURN ON EFFORT EMPLOYED METHOD

David watson [11] developed this method which involves the measurement of effort employed on various functions, i.e. buying, manufacturing and selling. Factors which distinguish the quantity and quality of effort expended are used to rate the contribution made by individuals. Such factors are:

1. Level or Grade of works done.

2. Effectiveness with which the individual performs his job.

3. Experience which increases, upto a point, the efficiency job performance.

These factors are then multiplied together in determining a measurement of effort employed for each individual. Individual scores are aggregated to obtain the figure of total effort employed in an organisation.

The method helps helps in more efficient allocation of Human Resources. It makes possible to question the existing allocation of resources between the different functions like baying manufacturing and selling on the basis of ratio of profits to efforts.

---

[11] Watson, David, "Art of Putting People on Balance Sheet", Accountancy, March, 1978, pp. 42- 46.

8. BRUMMET, LLAMHOLOTZ, AND PYLE'S ECONOMIC VALUE METHOD OF GROUP VALUATION

Brummet, Flamholtz and pyle [12] development this method in 1968 which was adopted to value the sales price in the insurance industry at the time of acquisition of sale. The method proposed that a group of human resources should be valued by estimating their contribution to the total economic value of the firm. The present value of a portion of the firm's future earnings attributable to human resources is the value of human resources. Firm's total present value calculation involves forecasting of the future earnings of the firm as a whole and discounting them at a predetermined rate. A portion of this value is allocated to human resources based on their relative contribution.

This method is easy to calculated and involves less time as it uses date which is readily available.

9. MORSE'S NET BENEFIT METHOD

Morse [13] has developed this method which states that the value of human resources is equal to the present value of gross value of services to be rendered in future by human beings both in an individual capacity as well as collective capacity minus the present value of future payments both direct and indirect to human beings.

---

[12] Brummet, R.L., Eric Flamholtz and william C. pyle, "Human Resource Measurement: A Challenge for Accountants", The Accounting Review, April, 1968, pp. 217-224.

[13] Morse, W.J. " A Note on the Relationship between Human Assets and Human Capital". The Accounting Review, July, 1973.

10. OGAN'S CERTAINTY EQUIVALENT NET BENEFITS METHOD

Pekin ogan[14] has made an improvement over the Morse's "Net Benefit Method" by incorporating the element of certainty with which the benefits in future will accrue. As per this method the value of human resource is equal to the present worth of certainty equivalent net benefits of all employees. The net benefits mean the difference between expected benefits and total costs. The expected benefits of an individual employee are determined by the product of his monetary value benefits potential with his individual performance index. The certainty factor means the probability of the employee remaining with the firm .it is determined by assessing the probability of continuation of the employee and the probability of survival of the employee. The Total cost means the total of the maintenance cost i.e. future salaries and wages ,start up costs, recruiting and initial training costs at their historical value and the future training and development costs. The net benefits thus arrived at for all employees multiplied by their certainty factor give certainty equivalent net benefits which form the value of human resources.

11. FRIEDMAN AND LEV'S HUMAN RESOURCE VALUATION MODEL

Friedman and Lev[15] developed a model considering firm – versus market wage relationship as a surrogate measure for economic value for an organisation's investment in Human Resources. The Human Resource value as per the authors is the difference between actual wages paid and the average market

---

[14] Ogan, P., "Human Resource Value Model for Professional Service Organizations", The Accounting Review, April, 1976.

[15] Feiendman, A. and B. Lev, " Surrogate Measure for the Firms Investments in Human Resources", Journal or Accounting Research, Vol.12 No. 2 Autumn, 1974 pp. 235-250.

wages assumed that may be taken to reflect organistional personnel policies because otherwise it could be reasonably expected that the employees would move from on employment to another to eliminate the difference. The difference can only continue to exist because management's policies differ from those of other management operating in the labour market. Thus the wage differential represents a return on an orgainsation's investment in human resources. If the return is known the value of human resources investment can be calculated by discounting the stream of expected wage savings over the expected service life of the employees. The value thus obtained reflects the management's policies for hiring, developing and maintaining the work force relative to a market average.

The model is cost based surrogate for orgainsational human resource value and an extension of the method "Lev and Schwartz's present value of future Earnings model".

12. CHAKRABORTY'S HUMAN RESOURCE VALUATION MODEL

Dr. S.K. Charaborty[10] has developed a model in the context of Indian industry. He has suggested that it is most appropriate to include human assets under the heading 'Investments' in the Balance Sheet. The model advocates the valuation of human resources on aggregate basis instead of individual . However he recommended that managerial and non-managerial human resource can be evaluated scparabely. The value of human resource on a group basis can be found out by multiplying the average salary of the group with the average tenure of employment of the employee in that group. The average annual salary payment for the next few years can be found out by salary grade

[10] Chakraborty, S.K., "Human Asset Accounting : The Indian Context in Topics in Accounting and Finance:, Oxford University Press, 1976.

structure and promotion schemes of the organisation. It has further suggested that the recruitment, hiring selection, training and development costs of each employee should be recorded separately, they can be treated as deferred revenu expenditure to be written off over the expected average stay of the employee in the orgainsation and the deferred portion should be shown in the balance sheet of the organisation. If there is a premature exit on account of death, retrenchment etc. then the balance on the deferred revenue account for the year attributable to that person should be written off against the income of the year of exit itself.

The discount rate for the purpose of ascertaining the present value of the estimated payments in the future is taken as 'the expected average after-tax return on capital employed over the average tenure period. Adoption of such a long term rate has been recommended in order to avoid fluctuations in human asset valuation from year to year simply due to changing annual rates of return because in a year of low rate of return the valuation will have an upward bias and conversely in a year of high return.

Total Human Resource value is estimated by adding the expenditure incurred on recruitment, training and development to the present value of average future salaries of group of employees. This value is shown as investment on the asset side of the Balance Sheet and is added to the capital employed (calculated under conventional method) on the liabilities side.

13. DAV'S MODIFIED PRESENT VALUE MODEL

The model developed by Shiv Kumar Dave[1] in 1987 incorporates in it indicators to reflect the effect of live factors which often affect the contribution

---

[1] Dave, Shiv Kumar, "Towards a Comprehensive Model for Human Resources Accounting and Finance", The Chartered Accounting of I.C.A.of Inida June, 1987.

of employees to the organisation and thereby, the calculated value of human resources. The model incorporates suitable indicators to take care of the positive and negative factors affecting the contribution of an employee to his organisation. The indicators are given below:

a) Experience Indicator
b) Efficiency Indicator
c) Labour Turnover Indicator
d) Labour Unrest Indictors
e) Output per Employee indicator

These indicators can be fitted on to any of the existing models and that is why the model in known as modified present value model.

II. NON-MONETARY MODEL

The models which are dominated by behavioural variables can be classified as non- monetary model.

1. LIKERI'S CAUSAL, INTERVENING AND END-RESULT VARIABLES MODEL

Likert Rensis [18] and David G. Bowers of the Institute for Social Research, University of Michigan, USA developed a model to measure the human resource value as a group to an organisation. The model assumes that the organisational productivity can be explained in terms of the human

---

[18] Likert, Rensis, and David G. Bowers, "Organizational Theory and Human Resource Accounting", American Psychologist, September, 1968.

organisation. The model has classified certain human variables into three categories:

i) CAUSAL VARIABLES

These are independent variables which can be directly or purposively altered or changed by the organisation and its management which, in turn, determine the course of developments within an organisation.

ii) INTERVENING VARIABLE

These variables reflect the internal state. health and performance capabilities of the organisation e.g. the loyalties, attitudes, motivation, performance goals and perception of all members and their collective capacity for effective action, interaction communication and decision making.

iii) END RESULT VARIABLE

These are dependent variables which reflect the results achieved by the organisation such as its productivity, costs, scrap loss, growth, share of market and earnings. Thus it includes financial and performance data reflecting the results achieved by the firm. Hence some of the end result variables are monetary in nature.

The model shows that the changes in leadership styles, technical proficiency level, managerial behavior. organisational structure (called the causal variables) result in chabes in the subordinates, attitudes, motivation, behavior, loyalties, perception (called the intervening variables) which produce changes in productivity, innovation, cost, revenue, quality, output, manpower development

(called the end-result variables). If a meaningful relationship among the three variables is established, the trend in earnings can be predicated. Forecast of predicted earnings can be discounted to determine the present value of the firm and its human resources.

Managerial leadership determines organisational climate which in turn influence the subordinated satisfactions and subsequently the total productive efficiency. Time lag of two years or more, often exist between a change in causal variables and the resulted changes in end-result variables.

Likert observes that a firm in which the causal variables display the characteristics of participate management style, will generate more effective intervening variables and consequently more desirable ene-result variable. He argues that the philosophy and practice of convention accounting concentrate on a few end-result variables which are consistent with the exploitative type of management style. He opines that by over emphasising short run profits and cost savings the present accounting system penalises managers who are making the greatest long run contribution to the organisation.

MERITS

a) The model unfolds the magnitude of human resource contribution to accomplish the objectives of the organisation and can be used as a means to formulate policy to build long term human resource capabilities.

b) It indicates the probable effects of management style on the result of the organisation both in the short run and in the long run.

DEMERITS AND LIMITATIONS

a) The model assumes liner relationship between causal, intervening and end-result the degree of reliability.

b) It is an expensive and time consuming model.

c) The questionnaire duly completed by members of the organisation forms the basis of all subsequent calculation. Hence different people may not arrive at the same value due to personal bias of the respondents.

d) The completed questionnaire requires interpretation which again will be subjective.

III. STATISTICAL BASED METHOD

The descriptive information containing statistics about human resources are collected, used and presented under statistical based method of human resources.

CONTRIBUTION BY OTHER SCHOLARS

1. Dr. Rakesh Chandra Katiyar has done a commendable work leading to D.Litt. Degree in commerce from Kanpur University, Kanpur India. He has studies the standard and practices in Anglo-saxon countries (USA,

UK, Australia, New Zealand, Canada) and India pertaining to accounting for human resources.

2. Few more research studies have been conducted on human resource accounting in India. One remarkable work is by R.K. Malik leading to Ph. D. Degree from the University of Delhi. The study has established the impact of human resource accounting information on the decision making. Another contribution in the field of human resource accounting is by R.K. Gupta which has led to Ph. D. Degree from the University of Delhi, India D. Prabhakar Rao has also contributed to the field of human resource accounting in a big way.

CONCEPT OF HUMAN RESOURCE ACCOUNTING

The definition of human resource accounting which has been generally accepted by the accountants is given by the American Accounting Association[19] Committee Report 1973. They have defined human resource accounting as " the process of identifying, measuring and communicating information about human resource to decision maker". This may be called as a broad concept of human resource accounting. Many other definitions are given by different scholars which in one way of the other says that Human Resource Accounting is the measurement of cost and value of people for the organisation.

It may be noted that contributions discussed in this chapter are not exhaustive list of scholars in the field of human resource accounting, but an attempt has been to incorporate the major contributions.

---

[19] American Accounting Association Committee on HRA, "Report on Human Resource Accounting", The Accounting Review Vol. XL,VIII, 1973.

CHAPTER-III

HUMAN RESOURCES ACCOUNTING PRACTICES:

a) *An analysis of human resources accounting practices regarding treatment of acquisition regarding treatment of acquisition and development cost of human resources in Indian organization based on primary data.*

b) *It also provides an analysis bases on secondary data regarding disclosure of value of human resource by organization in India and abroad, such as U.S.*

c) *A, U.K, and Australia*

CHAPTER III

HUMAN RESOURCE ACCOUNTING PRACTICES

This chapter has been divided into two parts namely:

a) Human Resource Accounting practices Regarding Treatment of cost Incurred on Acquisition and Development of Human Resource.

b) Human Resource Accounting practices Regarding valuation of Human Resource in Inida, USA, UK, and Australia.

A) HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING TREATMENT OF COST INCURRED ON ACQUISITION AND DEVELOPMENT OF HUMAN RESOURCE.

The study has generated primary data through a structured questionnaire for ascertaining the accounting treatment regarding the cost incurred on acquisition and development of human resource. The respondents ware asked to select only one out of five options namely:

1. Fully debited to profit and loss accounts.

2. Allocated over a period of benefit received

3. Allocated for a period more than a year

4. Allocated arbitrarily

5. Not incurred or calculated at all

Nine variables of acquisition and development cost ware selected this variable are listed blow:

1. Agency fees for placement services (Table3.1)

2. Advertisement cost on press : New paper, Journals, etc. (Table 3.2)

3. Salary and other cost of Recruiting Personnel (Table 3.3)

4. Cost of committee of Experts for recruitment (table3.4)

5. Candidate's travelling cost reimbursed (Table3.5)

6. General Overhead Expensed in selection process(Table 3.6)

7. Cost of tuition, travel & lodging for training courses attended outdise the onganisation (Table3.7)

8. Salaries, Space cost and other cost in in-house training (Table3.8)

9. Familiarisation cost (Table3.9)

The Table 3.1 to 3.9 clearly show that almost all the sample organisation are fully debiting the cost incurred on acquiring and development human resources to the current year profit and loss account without taking into account the period of benefits which is against the principle of matching of cost and revenue.

The significant value of Chi-square in Table 3.1, 3.4, 3.5, 3.7, 3.8 are due to the fact that these cost are not incurred at all in some of the organisation. One interesting point is that familiarisation cost calculated or disclosed in any of the sample organisation.

Tables 3.10 and 3.11 cover two questions which are meant to test whether the respondent is well versed with the accounting principles or not. In all 225 respondents were selected for analysis who filled the complete questionnaire and answered these two test question correctly and the rest were not included either because they could not answer them correctly or they did not fill the full questionnaire. These questions provide the credibility of the responses, thus minimising sampling errors.

Table – 3.1

AGENCY FEES FOR PLACEMENT SERVICES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	23	7	30	22	82
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	2	0	3	0	5
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	50	68	17	3	138
Total	75	75	50	25	225

D.F. = 6, TABLE VALUE AT (0.05) = 12.59

COMPUTER VALUE OF CHI SQUARE = 74.03897   **SIGNIFICANT**

Table – 3.2

ADVERTISEMENT COST ON PRESS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	72	75	49	25	221
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	2	0	1	0	3
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	1	0	0	0	1
Total	75	75	50	25	225

D.F. = 6, TABLE VALUE AT (0.05) = 12.59

COMPUTER VALUE OF CHI SQUARE = 4.570135   **NOT SIGNIFICANT**

Table – 3.3

SALARY AND OTHER COST OF RECRUITING PERSONNEL

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	75	75	50	25	225
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	0	0	0	0	0
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	0	0	0	0	0
Total	75	75	50	25	225

Table – 3.4

COST OF COMMITTEE OF EXPERTS FOR RECRUITMENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	52	75	32	25	184
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	2	0	1	0	3
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	23	0	18	0	41
Total	75	75	50	25	225

D.F. = 3, TABLE VALUE AT (0.05) = 07.815

COMPUTER VALUE OF CHI SQUARE = 40.68133 **SIGNIFICANT**

Table – 3.5

CANDIDATE'S TRAVELLING COST REIMBURSED

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	32	53	39	23	147
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	0	0	0	0	0
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	43	22	11	2	78
Total	75	75	50	25	225

D.F. = 3, TABLE VALUE AT (0.05) = 07.815

COMPUTER VALUE OF CHI SQUARE = 29.34654 **SIGNIFICANT**

Table – 3.6

GENERAL OVERHEAD EXPENSED IN SELECTION PROCESS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	75	75	50	25	225
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	0	0	0	0	0
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	0	0	0	0	0
Total	75	75	50	25	225

Table – 3.7

COST OF TUITION, TRAVEL & LODGING FOR TRAINING COURSES ATTENDED OUTDISE THE ONGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	28	35	14	19	96
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	0	0	0	0	0
Allocated arbitrarily	47	40	36	06	129
Not incurred at all	43	22	11	2	78
Total	75	75	50	25	225

D.F. = 3, TABLE VALUE AT (0.05) = 07.815

COMPUTER VALUE OF CHI SQUARE = 17.11482   SIGNIFICANT

Table – 3.8

SALARIES, SPACE COST AND OTHER COST IN IN-HOUSE TRAINING

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	15	18	32	25	91
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	0	0	0	0	0
Allocated arbitrarily	0	0	0	0	0
Not incurred at all	60	56	18	0	134
Total	75	75	50	25	225

D.F. = 3, TABLE VALUE AT (0.05) = 07.815

COMPUTER VALUE OF CHI SQUARE = 68.45579   SIGNIFICANT

Table – 3.9

FAMILIARISATION COST

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully debited to P & L A/c	0	0	0	0	0
Allocated over a period of benefit received	0	0	0	0	0
Allocated for a period more than a year	0	0	0	0	0
Allocated arbitrarily	0	0	0	0	0
Not incurred \calculated	75	75	50	25	225
Total	75	75	50	25	225

Table – 3.10

ASSETS TAKEN ON LEASE ARE SHOWN IN THE BALANCE SHEET AS ASSETS

SECTOR SCALE		PSSC	GSSC	PSMC	GSMC	Total
Assets taken on lease are shown in the balance sheet as assets	Yes	0	0	0	0	0
	No	75	75	50	25	225
Total			75	75	50	25	225

Table – 3.11

HIRE PURCHASE ASSETS ARE SHOWN IN THE BALANCE SHEET AS ASSETS

SECTOR SCALE		PSSC	GSSC	PSMC	GSMC	Total
Assets taken on Hire Purchase are shown in the balance sheet as Asset	Yes	75	75	50	25	225
	No	0	0	0	0	0
Total			75	75	50	25	225

B) HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING VALUATION OF HUMAN RESOURCES BY ORGANISATIONS IN INDIA, USA, UK, AND AUSTRILIA

The study has used secondary data mainly Annual Reports of sample companies of India in case of Indian organisations and Survey Reports and other secondary sources have been used for analyzing the valuation practices of human resources in USA, UK and Australia.

1. HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING VALUATION OF HUAMN RESOURCES BY ORGANISATIONS IN INDIA

The Government of India took the initiative way back in 1968 by issuing the guidelines for incorporating the required information in the Annual Reports of the public Sector Enterprises (No. BPE/10(1) Adv (1)/1968 dated 11[tn] September, 1968)[1]. The relevant guidelines relating to human resources are reproduced below:

- Employee – Employer relations, Strikes, lockouts, incentive Schemes, training etc.
- Staff welfare activities – township, education health facilities.

The above information can be called be called as part of Human Resource information. Many public sector enterprises are disclosing this information as part of the Annual Report.

---

[1] Bureau of Public Enterprises, " Government Policy for the Management of Public Enterprises – Vol. I – General Management and Financial Management", New Delhi 1985.

Some of the companies have also ventured to value the human resource which they disclose in the Annual report. Such organisations were identified after scanning their Annual.

Report from the year 1985-86 to 1991-92. These organisation can be classified under the following heads.

a) Public Sector Enterprises

b) Private sector Enterprises

a) PUBLIC SECTOR ENTERPRISES

Human Resource Accounting could find a place in the Annual Report in the form of Human Resource Value shown separately as additional information along with the financial statement in some of the organisations which are listed blow:

1. Bharat Heavy Electricals Limited (BHEL)
2. Canbank Financial Services Limited (CANFINA)
3. Cement Corporation of India Limited (CCI)
4. Engineers India Limited (EIL)
5. Hindustan Petroleum Corporation Limited (HPCl)
6. Hindustan Zinc Limited (HZL)
7. Madras Refineries Limited (MRL)
8. Maruti Udyog Limited (MUL)
9. Metallurgical & Engineering Consultants (India) Ltd. (MECON)
10. Minerals and Metals Trading Corporation of India Ltd. (MMTC)
11. National Thermal Power Corporation Limited (NTPC)
12. Oil and Natural Gas Commission (ONGC)
13. Oil India Limited (OIL)
14. Steel Authority of India Limited (SAIL)

b) PRIVATE SECTOR ENTERPRISES

1. Associated Cement Companies Limited (ACC)
2. Southern Petro – Chemical Industries Corporation (SPIC)

The Computation of values of human Resources is based on the following models:

a) Lev and schwartz Model
b) Lev & Schwartz, Eric G. Flamholtz, Jaggi & Lau

With suitable modification required to suit the specific conditions of each organisation. That means all the organisations mentioned above have based the valuation on the basis of discounted future earnings of present employee and none has used the cost approach. Further, all the organisations mentioned above has made use of the first model except three companies namely ACC, MECON, and SAIL who have based their valuation on the basis of second group of models.

The discount rates adopted by the above-mentioned organisations range between 12 to 15 percent and most of the organisations have opted for 12%. It is important to note here that the above-mentioned organisations felt the impotance of valuing human resources but there are some organisation which discontinued the practices after adopting it for a year or so. Hence it would not be proper to assume that all the above-mentioned enterprises are continuously valuing their human resources. It can be concluded that disclosure of Human Resource Accounting information in India organisations is limited to a few select organisations. The researcher could find only fourteen such organisations in the public sector and only two in the private sector and out of this small number some are irregular and a few have discountinued the

practice which does not really present encouraging scenario for human resource accounting in India.

2. HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING VALUATION OF HUMAN RESOURCE BY ORGANISATION IN USA

The Human Resource Accounting started in the early 1960's and the credit for the same goes to United Sates of America (USA). The "Milwaukee Braves.Inc[2] Which Was incorporated in 1962 to acquire "Milwaukee Braves Baseball Club" decided to treat in 1963 its investment in future team development as an asset to be capitalised and amoritised over its expected useful life rather than as an expense in the period incurred.

R.G. Barry Croportion[3] of USA engaged in manufacturing and public company listed on the American Stock Exchange reported for the first time in 1969 two columns i.e. 'Financial only' and ' Financial and Human Resource' their focus was on the cost involved in acquiring and developing human resource.

The number of organisations disclosing human resource accounting information is on the increase which is proved by the survey of fortune 500 companies of USA 1971 to 1977 reported by H.C. Jonanson[4] in 1979. The companies making human resource accounting disclosures has increased from

---

[2] Eric G. Flamholtz, "Human Resource Accounting", Dickenson Publishing Company Inc., pp. 309-321 Case 9-1.

[3] Ibid. pp. 97-105, Cases 3-1, 3-2, 3-3.

[4] H.C. Johnson, "Disclosure of Croporate Social Performance", Praeger Publishers, 1979.

48% in 1971 to 89% in 1977 that means 446 companies out of top 500 companies made such disclosures which is very heartening.

3. HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING VALUATION OF HUMAN RESOURCE BY ORGANISATION IN UK

In united kingdom (UK) disclosures about human resource information are embodied in the statutory requirement governing company account. The relevant and important point are given blew:

a) Companies Act, 1967 (Section 18) requires for companies which employ 100 or more people to state the average number of UK employees and their aggregate remuneration during the year in the director's report.

b) The code of Conduct for Companies with interest in South Africa (Cmnd.7233) requested that the annual reports should provide information about employment practices of subsidiaries and associated companies with respect to black workers in South Africa.

c) Companies (No. 2) Bill of 1981 Schedule I, Part III Section 56 requiring the separate disclosure of wages and salaries, social security costs and other pension costs.

d) Health and safety at work Act 1974 provides for regulations requiring companies to disclose information in the directors, report about the arrangement for securing the health, safety and welfare of employees at work place.

A survey[5] in UK of 300 Companies shows that 45% (134 out of 300) disclose Information relating to human resources under the heading "Social Reporting" which is less than USA but still very encouraging as compared to India.

4. HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING VALUATION OF HUMAN RESOURCE BY ORGANISATIONS IN AUSTRALIA

Tortman[6] and Pang[7] in their studies of 100 largest Companies of Australia show that social responsibility and human resource disclosures have increased consistently from 26% in 1967 to 48% in 1972 to 69% in 1977 and 79% in 1980 even though it is purely voluntary.

This proves the increasing concern of corporate world about disclosing information about human resources which is lacking in India.

---

[5] Institute of Chartered Accounting in England and Wales, "Survey of 300 Company Reports" London, 1981, pp. 220

[6] K.T. Trotma, "Social Responsibility Disclosure by Australian Companies", Chartered Accountant in Australia, March 1979.

[7] Y.H. Pang, Disclosure of Corporate Social Responsibility", Chartered Accountant in Australia, July, 1982.

CHAPTER-IV

HUMAN RESOURCES COST AND VALUE:

a) *Analysis the perception of human resource by using primary data on the issues relating to human resources cost and value organizations under study.*

CHAPTER IV

HUMAN RESOURCE COST AND VALUE

This Chapter provides an analysis of the results to understand the perceptions of Human Resource regarding Human Resource cost and value. Twenty statements related to human resource cost and value were asked from the respondents were asked to tick mark the appropriate number ranging from 1 to 5 on a five point scale, viz.

1. Strongly agree
2. Moderately agree
3. Agree
4. Moderately disagree
5. Strongly disagree

The data generated from these statements has been classified into four sectors as explained in Chapter 1 and Chi-square test has been used to lest whether there is significant difference of opinion between the respondents of four sectors or not. The scales index (mean) has been calculated to find the average score on five point scale to make the analysis easier.

The date of twenty statements are compiled in Tables 4.2 to 4.21 and a summary of Chi-square values and scales index of 20 tables is shown in Table 4.1 where it can be observed that only two (Table 4.17 and 4.20) Chi-square values are showing significant difference and in the rest of tables there is no significant.

TABLE – 4.1

SUMMARY TABLE REGARDING

HUMAN RESOURCE COST AND VALUE

T. No.	Particulars of Questions Asked	Chi-square	Scale Index
2.	Criteria for Asset in long term benefits	6.200777	1.648888
3.	HR if stays for long must be shown as Asset	13.48233	1.742222
4.	Matching requires acquisition cost allocation	9.539417	1.724444
5.	HR serve the Org. for a long period of time	9.193869	1.466666
6.	Benefits from HR is for a long period of time	5.173333	1.795555
7.	Matching principle should be applicable on HR	4.795648	2.057777
8.	P&L A/C can't show true & fair view without HRA	3.907423	2.071111
9.	B/S can't show true & fair view without HRA	3.027696	1.968888
10.	Compensation received by HR is value to him	5.001389	1.64
11.	Compensation paid to HR is cost to the org.	5.020825	1.64
12.	HR value related to contribution by HR in co.	6.247971	1.546666
13.	HR cost is relevant for final accounts	6.043077	1.782222
14.	HR value is relevant for Management A/cing	7.929464	1.608888
15.	HRA can be compatible with financial A/cing	4.248012	1.968888
16.	HR Repl. Cost useful for HR turnover decision	4.620754	1.782222
17.	HR Retention Decision needs opportunity cost	87.78123*	2.377777
18.	Allocation of Acq., Dev., & retention cost	6.227619	1.777777
19.	Org. is liable to pay for service life of HR	12.39634	1.902222
20.	HR joins org. keeping in mind total package	52.91873*	2.124444
21.	If liable on hiring HR than like Hair P. Asset	8.224566	1.982222
	Total of scale index		36.60887
	Combined scale index		1.830443

Not : 1. Table no. 2 to 21 represents data for 225 respondents.

2. Represents significant value of Chi-square.

HUMAN RESOURCE COST AND
VALUE GRAPH-4.1

TABLEU 4.2 TO 21
SCALE INDEX VALUE
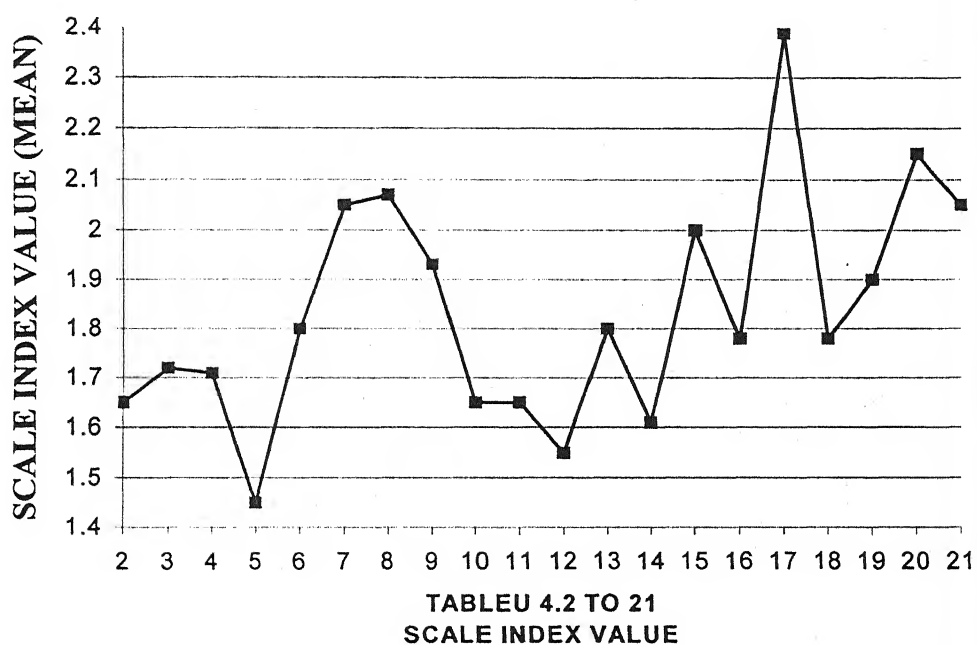
Difference between different sectors. Table 4.17 relates to usefulness of HR opportunity cost while taking HR retention decisions which is showing significant difference because of government and private sectors. In the government sector the respondents perception against this may be due to the fact that it is very difficult to terminate the services of an employee due to the trade unions' pressure. It seems that they feel that in any case human resource are going to stay in the organisation. Further, Table 4.20 regarding HR joins and organisation on the basis of their perception of total package of compensation is also showing significant value of chi-square because of differences between the government and private sectors. It seems that the respondent of the private sector both manufacturing and service perceive that the total package is not in mind when a person joins the private sector, but in the government sectors it seems that most of the respondents feel that the total package (present and future) is in mind while making a contract of service with an organisation.

The combined scale index of 1.83 as shown in Table 4.1 lies between strongly agree to moderately agree in respect of the twenty statement answered by the respondent. Hence it can be concluded with fairly high degree of confidence that respondents are reasonably in strong support of the statement given in the summary Table 4.1.

I. INTENTION OF ORGANISATION TO RETAIN HUMAN RESOURCE

1. The hypothesis number one regarding the intention of the organisation to retain the existing human resource of the organisation until the useful service life of the human resource is accepted. The variables in support of this hypothesis are shown in Tables 4.5, 4.6, Table 4.5 contains strong opinion regarding HR serve the organisation for a long period of time with scale index of 1.47 and chi-square value having no

significance. Table 4.6 describes reasonably strong perception regarding the benefits from HR is for a long period of time having scale index of 1.8 with insignificant chi-square value.

II. HUMAN RESOURCE COST AND TABLE BALANCE SHEET

1. The criteria for showing assets in the balance sheet is on the basis of long term benefits rather than ownership is the strong belief the respondents as shown in Table 4.2 having scale index of 1.65.

2. Table 4.3 shows a scale index of 1.74 regarding the statement that HR if stays for a long period of time than it makes a case for showing them as assets as the period of benefits will be long term rather than a year.

3. The respondents perceptions in Table 4.9 reflect that the balance sheet cannot show a true and fair view unless human resource accounting information is duly incorporated. The scale index of 1.97 can be called as quite strong opinion regarding this variable.

4. The future compensation paid to the HR is a part of the contract made at the time of hiring i.e., when the organisation employs a person on a permanent basis then there is an in-built the conditions of the contract are duly met. Hence it can be concluded that the organisation becomes liable to pay compensation throughout the service life of the human resource. The responses regarding the above statement are tabulated in Table 4.19 which has a scale index of 1.9 which is very near to moderately agree. It means that the liability to pay arises at the time of service contract and the liablility is paid by the organisation when it becomes due like salary is paid to an employee when he/she works for a stipulated duration like a month.

5. Table 4.20 shows a scale index of 2.12 regarding the statement that HR joins an oranisation keeping in mind the total package (present and

future expected compensation). The significant value of chi-square has been explained earlier.

6. The respondents have a fairly strong opinion that if the liability arises at the time of hiring human resource then HR can be shown in the balance sheet as assets the way the assets acquired under the hire-purchase are shown. (Table 4.2 scale index 1.98)

III. HUMAN RESOURCE COST AND THE PROFIT AND LOSS ACCOUNT

1. Matching of cost and revenue principle of accounting should be applicable in respect of human resource also is the reasonably strong opinion of the respondents with scale index of 2.06 which is shown in Table 4.7.

2. The respondents are of quite strong view that if the human resource gives benefit from his/her services to the organisation for a longer period than a year then the cost of acquiring them should be allocated for the period of benefits. (Table 4.4 scale index 1.72).

3. Table 4.18 shows the scale index of 1.78 regarding the statement "the contract of service is a mutual agreement between the organisation and the individual and if both are satisfied with the performance of each other then the organisation intends to retain the human resource throughout his service life in that organisation. If this is true then it can be said that the organisation gets the right to use human resource by incurring certain costs (acquisition, development and retention) which are incurred with the intention to retain human resource for a long period of time. A proper allocation of these costs, which are meant to acquire and retain human resource for a long period of time, for the current period should be charged from the profit and loss account and the balance should be transferred to the Balance Sheet.

4. The respondents perceptions in Table 4.8 reflect that the profit and loss account of a firm cannot show a true and fair view without human resource accounting information particularly the cost aspect. The scale index 2.07 can be called as fairly strong opinion regarding this variable.

IV. HUMAN RESOURCE AND THE FINAL ACCOUNT

1. There is a very strong opinion (scale index 1.78, Table 4.13) regarding the statement relating to the cost incurred on human resource is relevant for incorporation in the final account based on historical costing and matching of cost and revenue (financial accounting).

2. Table 4.15 contains the perception of the respondents regarding compatibility of human resource accounting with financial accounting. The scale index of 1.97 regarding this variable can be considered as quite favourable opinion sufficient for recommending compatibility of the same.

V. HUMAN RESOURCE COST AND VALUE

1. The compensation paid to the human resource in an organisation is actually the value to the individual from his point of view is the very strong perception of the respondents reflected in the scale index of 1.64 shown Table 4.10.

2. Table 4.11 reveals a very strong opinion (scale index 1.64) that the salary and other compensation paid to the human resource is actually cost incurred on human resource by the organisation and not the value of human resource to the organisation.

3. The respondents also have a very strong opinion (see the index 1.55) that the value of human resource to the organisation is directly related to the contribution made by the human resource to the organisation (Table 4.12).

4. Table 4.14 indicates that the respondents very strongly (scale index 1.61) perceive that the value of human resource is relevant for management accounting.

5. Replacement cost of human resources becomes useful information while taking human resources turnover decisions is the strong perception of the respondents with scale index 1.78 shown in table 4.16.

6. The respondents fairly agree that opportunity cost of human resource becomes useful information while taking human resource retention decisions (Table 4.17, scale index 2.38). The significant value of chi-square has been explained earlier.

MAJOR FINDINGS

1. The organisation intends to retain HR and the benefits from the human resource to the organisation is for a long period than a year.

2. The profit and loss account and the Balance Sheet based on historical cost and matching of cost Balance Sheet based on historical cost and matching of cost and revenue principle can not show a true and fair view unless cost aspect of HR is duly incorporated. The benefits from HR will accrue for a long period of time, hence the cost incurred on HR: acquisition, development and retention should be properly capitalised and only duly allocated portion should be incorporated in the Profit and Loss account. The capitalised portion of HR cost should be shown in the Balance Sheet on the basis of expected future benefits as we show assets purchased under hire purchase scheme in the Balance Sheet.

3. The value of Human Resource is purely related to the contributions made by the Human Resource for the orgainsation which is more

relevant for Management Accounting instead of financial accounting based on historical cost and matching of cost and revenue.

4. The replacement cost and opportunity cost of Human Resource is relevant for Human Resource turnover and retention decisions respectively and should be used for taking managerial decisions in this regard.

The analysis of the results interpreted above supports the hypotheses number one, four, five and six given in chapter one. Hence all these hypotheses are accepted which can be summarised as the organisation intends to retain the existing human resource until the useful service life of human resource and hence the acquisition, development and retention costs of human resource does not comply the matching of cost and revenue principle of accounting as per the current accounting treatment practices. Chapter three reveals that all the costs related to the human resource are fully debited to the current year income statement in the sample organisations.

Table – 4.2

CRITERIA FOR ASSET IS LONG TERM BENEFITS RATHER THAN OWNERSHIP

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	42	45	26	14	127
Moderately	21	24	14	06	65
Agree	09	04	06	03	22
Moderately Disagree	02	01	03	01	07
Strongly Disagree	01	01	01	01	04
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 6.200777   **NOT SIGNIFICANT**

Scale Index = 1.65

CRITERIA FOR ASSET IS LONG TERM BENEFIT
GRAPH-4.2

M.Disagree-7 3%
S.Disagree-4 2%
Agree-22 10%
S.Agree-127 56%
M.Agree-65 29%
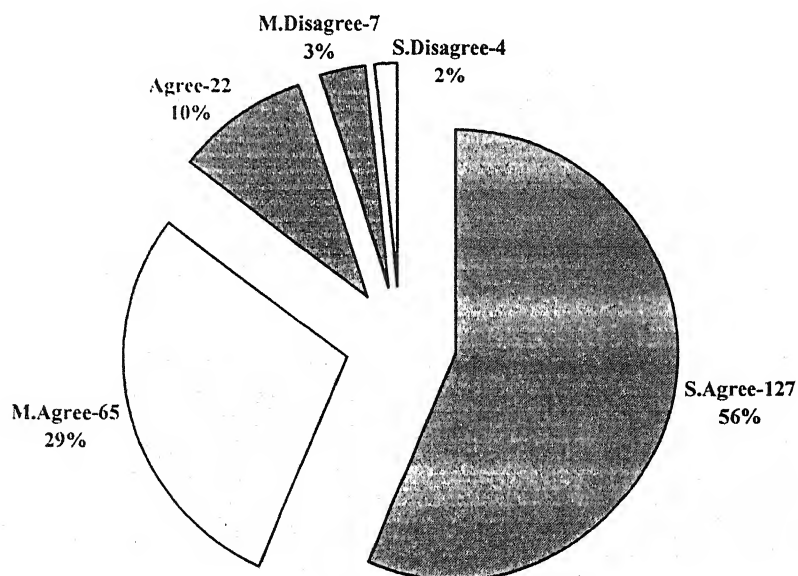
Table – 4.3

HUMAN RESOURCE IF STAYS FOR LONG MUST BE SHOWN AS

ASSET

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	41	55	24	14	134
Moderately Agree	19	09	12	05	45
Agree	06	06	06	03	24
Moderately Disagree	05	03	04	02	14
Strongly Disagree	04	02	01	01	08
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 13.48233   **NOT SIGNIFICANT**

Scale Index = 1.74

HR BE SHOWN AS ASSET IF STAYS FOR LONG
GRAPH-4.3
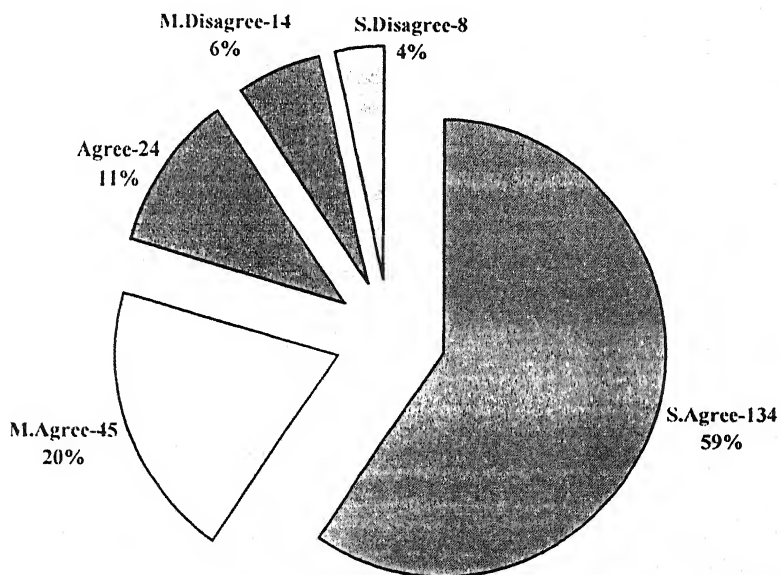
Table – 4.4

MATCHING OF COST AND REVENUE REQUIRES ACQUISITION
COST ALLOCATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	45	49	23	12	129
Moderately	18	14	13	08	53
Agree	09	05	09	03	26
Moderately Disagree	02	04	03	01	10
Strongly Disagree	01	03	02	01	07
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 9.539417   **NOT SIGNIFICANT**
Scale Index = 1.72

ACQUISITION COST ALLOCATION IS REQUIRED
GHAPH-4.4

M.Disagree-10 4%
S.Disagree-7 3%
Agree-26 12%
S.Agree-129 57%
M.Agree-53 24%
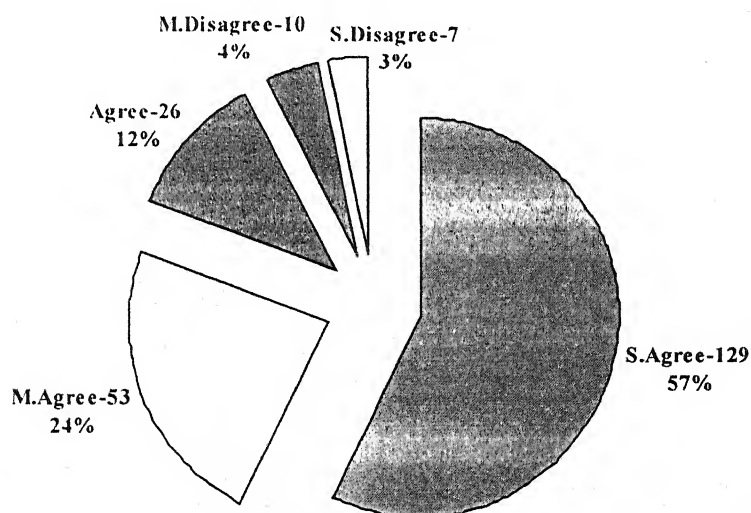
Table – 4.5

HR GENERALLY SERVE THE ORGANISATION FOR A LONG PERIOD OF TIME

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	51	58	32	16	157
Moderately Agree	12	14	09	05	40
Agree	09	02	07	03	21
Moderately Disagree	02	01	01	01	05
Strongly Disagree	01	00	01	00	02
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 9.193869   **NOT SIGNIFICANT**
Scale Index = 1.47

HR SERVE THE ORG. FOR A LONG PERIOD
GHAPH-4.5

M.Disagree-5 2%
S.Disagree-2 1%
Agree-21 9%
M.Agree-40 18%
S.Agree-157 70%
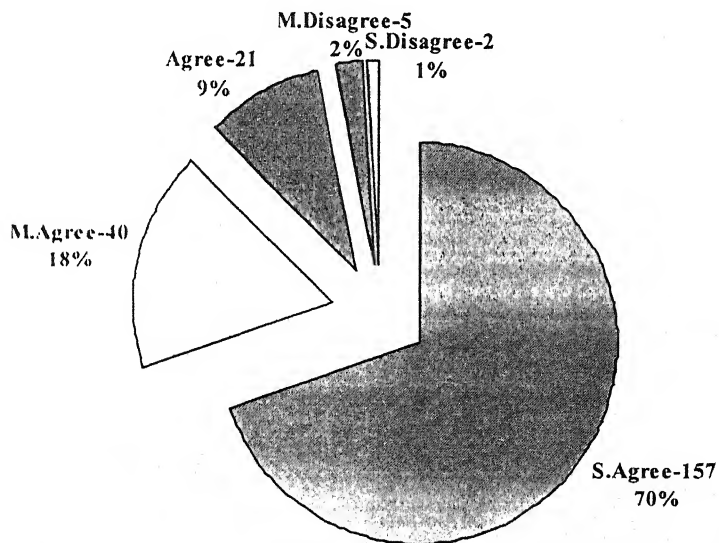
Table – 4.6

BENEFITS FROM HUMAN RESOURCE IS FOR A LONG PERIOD OF

TIME

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	42	47	26	12	127
Moderately	14	16	12	07	49
Agree	11	06	05	03	25
Moderately Disagree	06	04	04	02	16
Strongly Disagree	02	02	03	01	08
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 5.173333   **NOT SIGNIFICANT**
Scale Index = 1.80

BENEFITS FROM HR IS FOR A LONG PERIOD
GHAPH-4.6
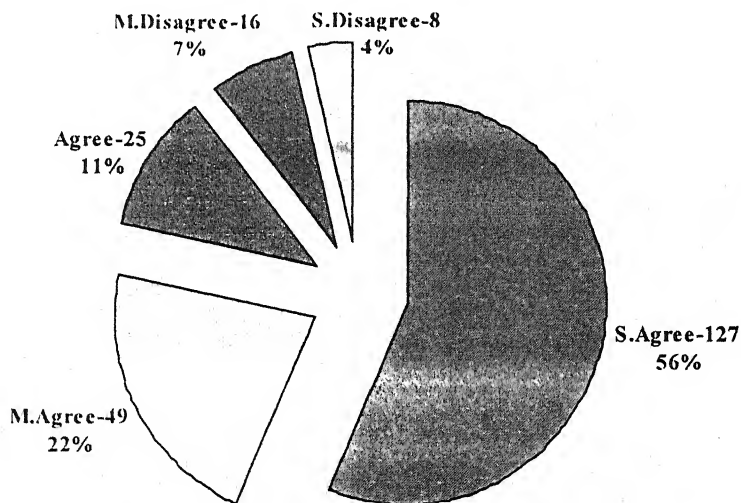
Table – 4.7
MATCHING PRINCIPLE SHOULD BE APPLICABLE ON HUMAN RESOURCE ALSO

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	35	41	21	10	107
Moderately Agree	15	12	13	07	47
Agree	12	10	09	05	36
Moderately Disagree	08	07	04	02	21
Strongly Disagree	05	05	03	01	14
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 4.795648   **NOT SIGNIFICANT**

Scale Index = 2.06

MATCHING PRINCIPLE BE APPLICABLE ON HR
GHAPH-4.7
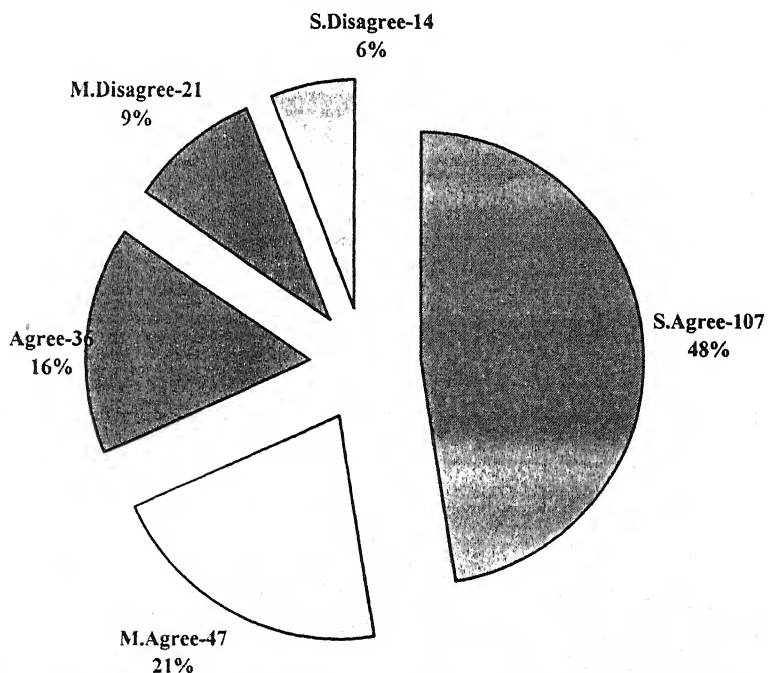
Table – 4.8

P & L ACCOUNT CAN NOT SHOW TRUE & FAIR VIEW WITHOUT

HRA

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	32	37	17	11	97
Moderately Agree	16	16	14	07	53
Agree	16	14	11	04	45
Moderately Disagree	08	06	06	02	22
Strongly Disagree	03	02	02	01	08
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 3.907423   **NOT SIGNIFICANT**
Scale Index = 2.07

P & L CAN'T TRUE & FAIR WITHOUR HRA
GHAPH-4.8

S.Disagree-8
4%

M.Disagree-22
10%

S.Agree-97
42%

Agree-45
20%

M.Agree-53
24%
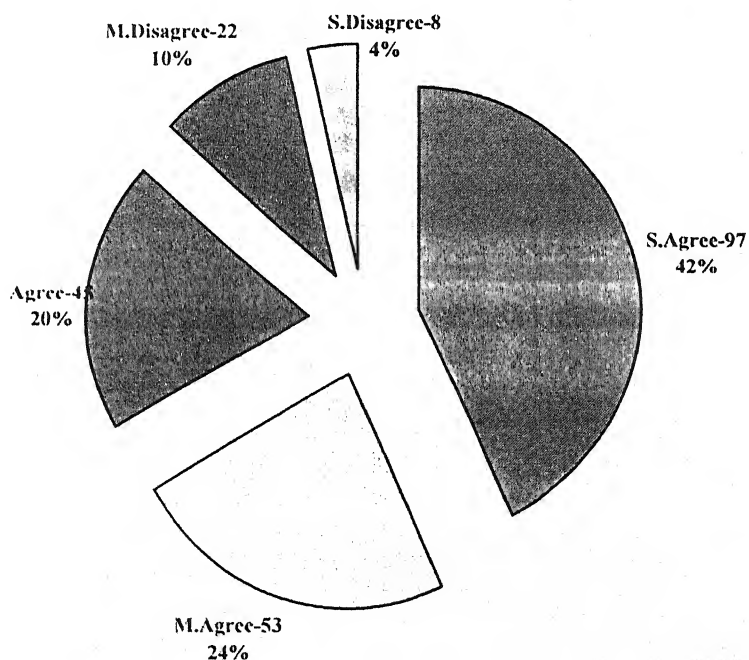
Table – 4.9

BALANCE SHEET CAN NOT SHOW TRUE & FAIR VIEW WITHOUT HRA

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	35	41	21	14	111
Moderately Agree	16	14	12	05	47
Agree	13	12	10	03	38
Moderately Disagree	08	06	05	02	21
Strongly Disagree	03	02	02	01	8
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 3.027696   **NOT SIGNIFICANT**
Scale Index = 1.97

B/S CAN NOT TRUE & FAIR VIEW WITHOUT HRA
GHAPH-4.9

M.Disagree-21
9%

S.Disagree-8
4%

Agree-38
17%

S.Agree-111
49%
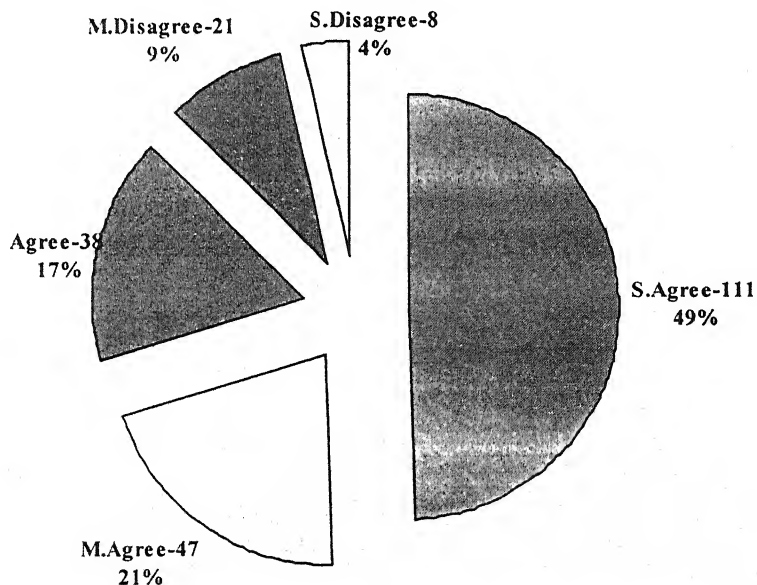
M.Agree-47
21%

Table – 4.10

COMPENSATION RECEIVED BY HR IS VALUE TO HIM FROM HIS POINT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	41	45	28	15	129
Moderately Agree	17	19	12	07	55
Agree	14	10	09	02	35
Moderately Disagree	02	01	01	01	05
Strongly Disagree	01	00	00	00	01
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 5.001389   **NOT SIGNIFICANT**

Scale Index = 1.64

COMPENSATION PAID TO HR IS VALUE TO HIM
GHAPH-4.10

Table – 4.11

COMPENSATION PAID TO THE HR IS COST TO THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	43	47	25	14	129
Moderately Agree	17	15	14	07	53
Agree	14	11	10	04	39
Moderately Disagree	01	01	01	00	03
Strongly Disagree	00	01	00	00	01
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 5.020825   **NOT SIGNIFICANT**
Scale Index = 1.64

COMPENSATION PAID TO HR IS COST TO ORG.
GHAPH-4.11

M.Disagree-3
1% S.Disagree-1
0%

Agree-39
17%

S.Agree-129
58%

M.Agree-53
24%

93

Table – 4.11

COMPENSATION PAID TO THE HR IS COST TO THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	43	47	25	14	129
Moderately Agree	17	15	14	07	53
Agree	14	11	10	04	39
Moderately Disagree	01	01	01	00	03
Strongly Disagree	00	01	00	00	01
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 5.020825   **NOT SIGNIFICANT**
Scale Index = 1.64

COMPENSATION PAID TO HR IS COST TO ORG.
GHAPH-4.11

M.Disagree-3
1% S.Disagree-1
0%

Agree-39
17%

S.Agree-129
58%

M.Agree-53
24%

Table – 4.12

HR VALUE IS RELATED TO THE CONTRIBUTION BY HR IN THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	44	48	28	16	136
Moderately Agree	19	18	15	06	58
Agree	12	07	07	03	29
Moderately Disagree	00	01	00	00	01
Strongly Disagree	00	01	00	00	01
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.247971   **NOT SIGNIFICANT**
Scale Index = 1.55

HR VALUE RELATED TO CONTIRIBUTIONS BY HR

GHAPH-4.12
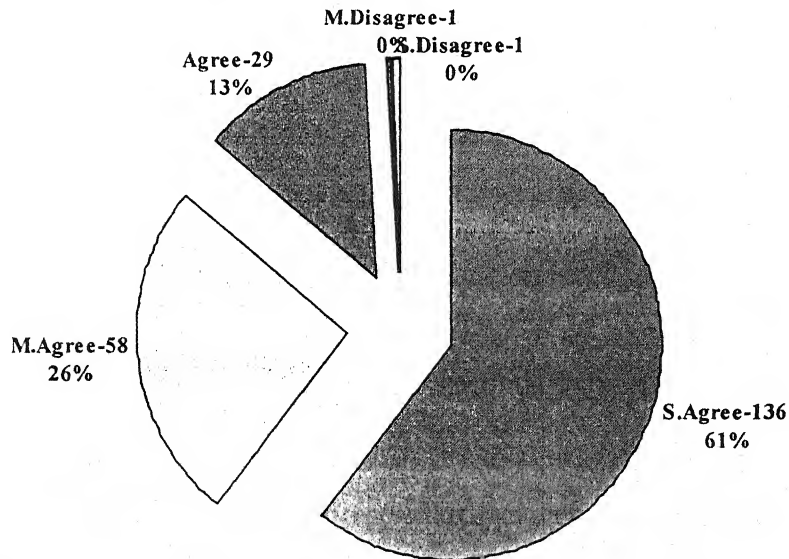
Table – 4.13
HR COST RELEVANT FOR INCORPORATION IN THE FINAL ACCOUNT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	38	43	25	12	118
Moderately Agree	17	16	15	09	57
Agree	14	12	05	03	34
Moderately Disagree	05	03	04	01	13
Strongly Disagree	01	01	01	00	03
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 6.043077   **NOT SIGNIFICANT**

Scale Index = 1.78

HR COST IS RELEVANT FOR FINAL ACCOUNTS
GHAPH-4.13

M.Disagree-13 6%
S.Disagree-3 1%
Agree-34 15%
S.Agree-118 53%
M.Agree-57 25%
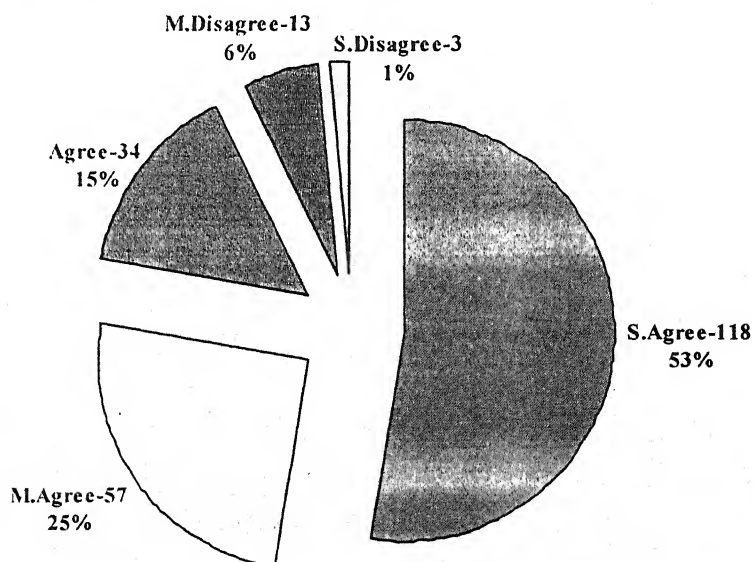
Table – 4.14

HUMAN RESOURCE VALUE IS RELEVANT FOR MANAGEMENT ACCOUNTING

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	40	45	28	15	128
Moderately Agree	19	17	16	08	60
Agree	15	12	06	02	35
Moderately Disagree	00	01	00	00	01
Strongly Disagree	01	00	00	00	01
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 7.929464   **NOT SIGNIFICANT**
Scale Index = 1.61

HR VALUE RELEVANT FOR MANAGEMENT A/CING
GHAPH-4.14
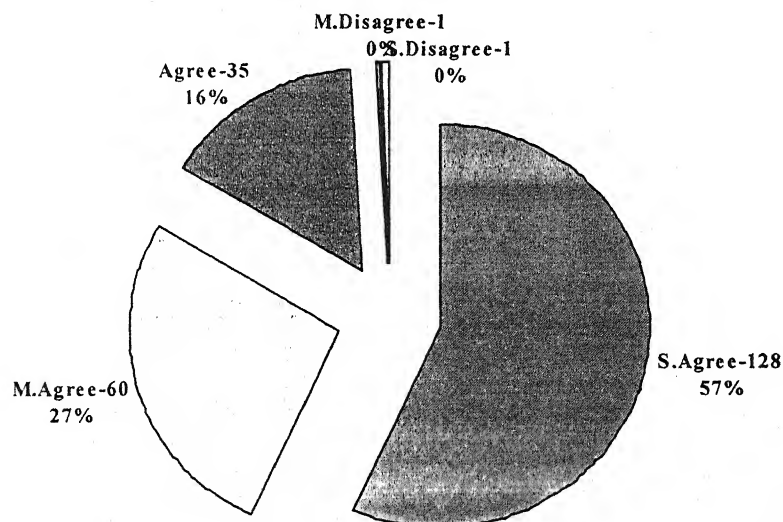
Table – 4.15
HR ACCOUNTING CAN BE COMPATIBLE WITH FINANCIAL ACCOUNTING

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	35	39	20	10	104
Moderately Agree	16	15	16	07	54
Agree	15	13	10	05	43
Moderately Disagree	07	06	03	02	18
Strongly Disagree	02	02	01	01	06
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 4.248012   **NOT SIGNIFICANT**

Scale Index = 1.97

HRA CAN BE COMPATIBLE WITH FIN. A/CING
GHAPH-4.15
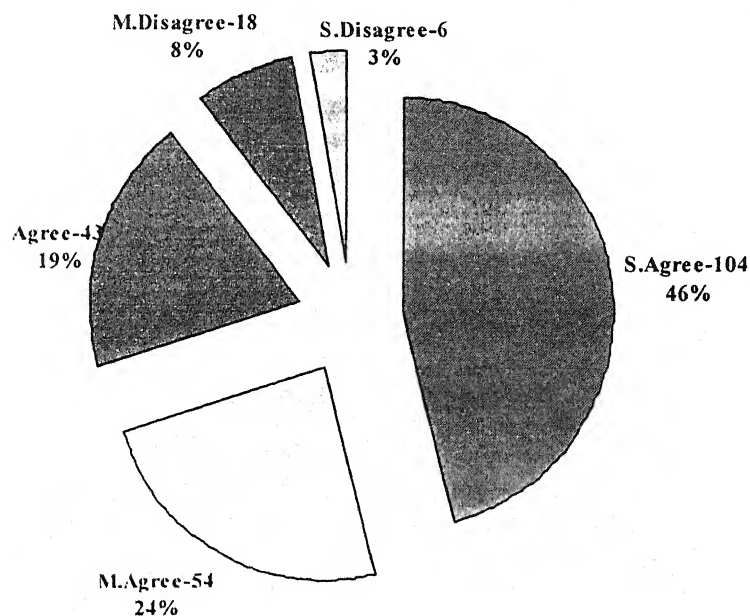
Table – 4.16
HR REPLACEMENT COST IS USEFUL FOR HR TURNOVER DECISIONS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	39	42	25	11	117
Moderately Agree	18	15	14	08	55
Agree	16	14	08	04	42
Moderately Disagree	01	03	02	01	07
Strongly Disagree	01	01	01	01	04
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 4.620754   **NOT SIGNIFICANT**

Scale Index = 1.78

HR TURNOVER DECISIONS NEEDS REPLA COST
GHAPH-4.16
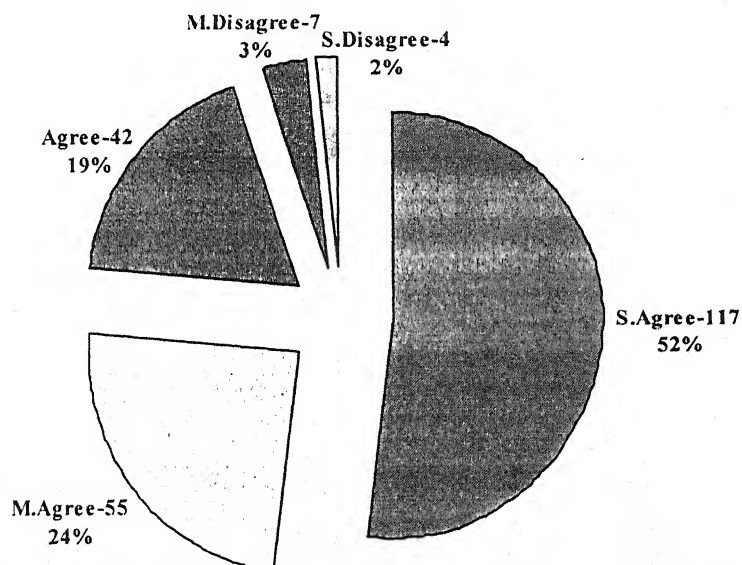
Table – 4.17

OPPORTUNITY COST IS USEFUL INFORMATION FOR HR TURNOVER DECISIONS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	37	10	26	01	74
Moderately Agree	20	15	18	03	56
Agree	17	20	05	07	49
Moderately Disagree	01	18	01	08	28
Strongly Disagree	00	12	00	06	18
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 87.78123   NOT SIGNIFICANT

Scale Index = 2.38

HR RETENTION DECISIONS NEEDS OPPO. COST
GHAPH-4.17

S.Disagree-18
8%

M.Disagree-28
12%

S.Agree-74
33%

Agree-49
22%

M.Agree-56
25%
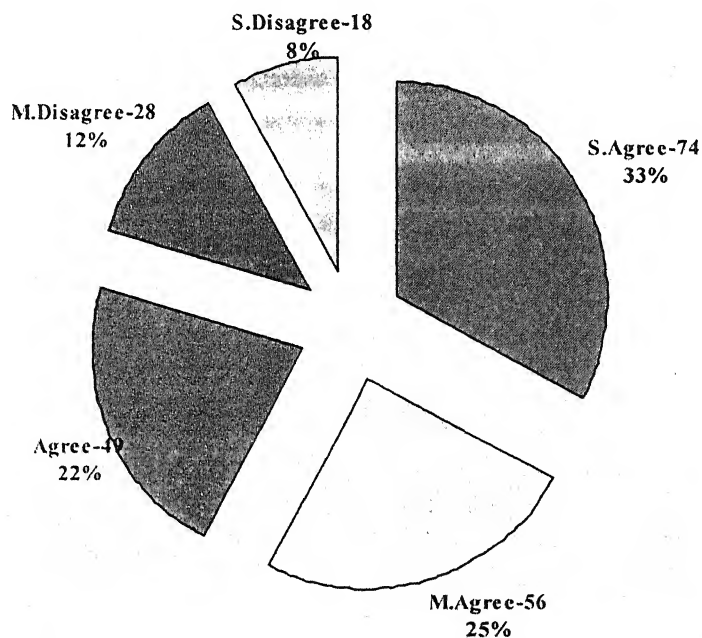
Table – 4.18
ACQUISITION, DEV & RETENTION COST SHOULD BE ALLOCATED PROPERLY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	42	40	19	11	112
Moderately Agree	19	18	18	07	62
Agree	22	14	11	06	43
Moderately Disagree	02	02	01	01	05
Strongly Disagree	01	01	01	00	03
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 6.227619   **NOT SIGNIFICANT**

Scale Index = 1.78

ALLOCATION OF ACQU., DEV., & RET. COST
GHAPH-4.18

M.Disagree-5 2% S.Disagree-3 1%

Agree-43 19%

S.Agree-112 50%

M.Agree-62 28%
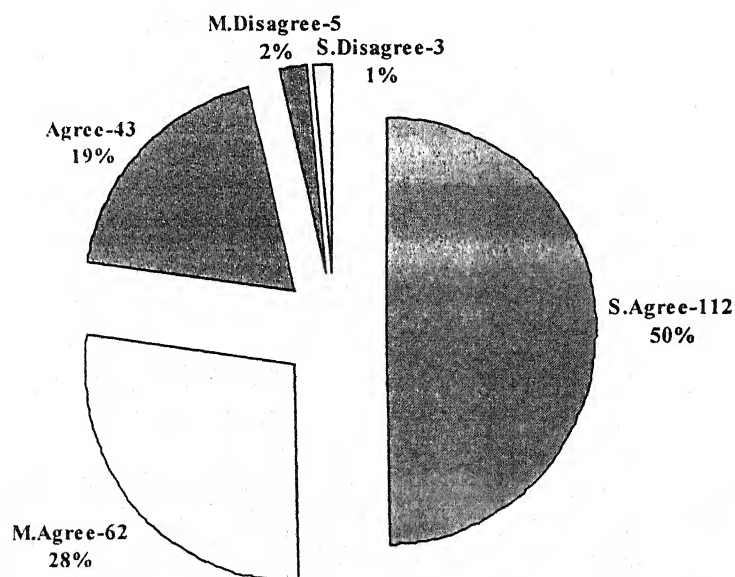
Table – 4.19
ORG. BECOMES LIABLE TO PAY THROUGHOUT THE SERVICE LIFE OR HR

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	35	45	15	10	105
Moderately Agree	18	15	17	07	57
Agree	17	11	15	06	49
Moderately Disagree	03	02	02	01	08
Strongly Disagree	02	02	01	01	06
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 12.39634   **NOT SIGNIFICANT**

Scale Index = 1.90

ORG. LIABLE TO PAY HR FOR SERVICE LIFE
GHAPH-4.19

<div align="center">
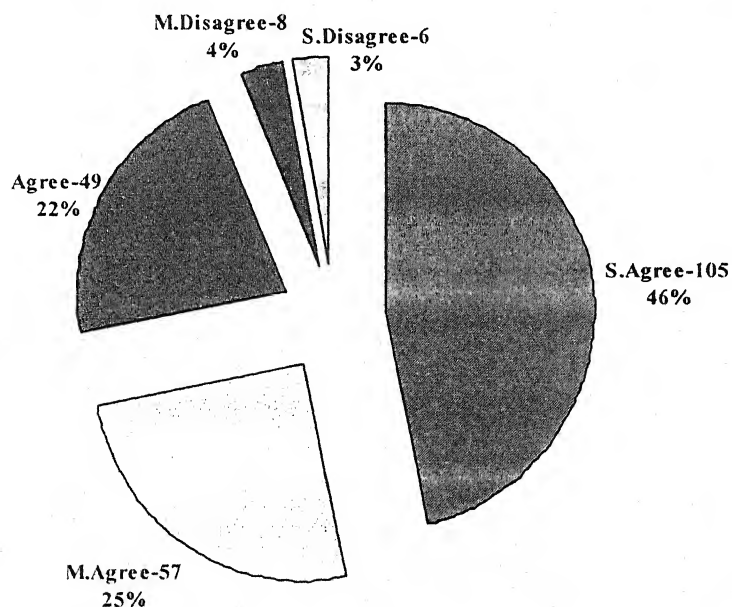
Table – 4.20

HR JOINS AN ORGANISATION KEEPING IN MIND THE TOTAL PACKAGE

</div>

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	12	47	10	12	81
Moderately Agree	22	17	12	08	59
Agree	31	10	22	04	67
Moderately Disagree	06	01	04	01	12
Strongly Disagree	04	00	02	00	06
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 52.91873   **NOT SIGNIFICANT**

Scale Index = 2.12

<div align="center">

HR JONIS AN ORG. FOR TOTAL PACKAGE

GHAPH-4.20

</div>
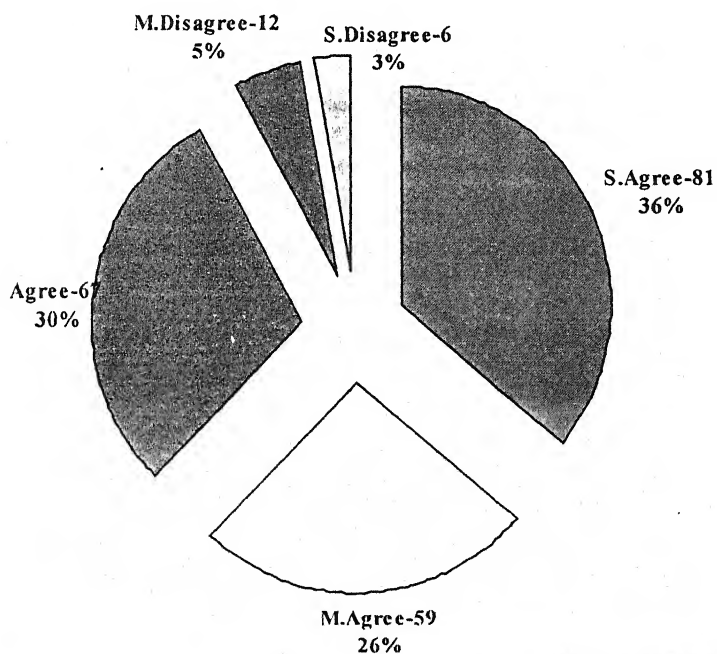
Table – 4.21

IF LIABILITY ARISES ON HIRING HR THAN CAN BE SHOWN AS ASSET IN BALANCE SHEET LIKE ASSETS PURCHASED ON HIRE PURCHASE ARE SHOWN

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	26	35	14	10	85
Moderately AgreeS	25	24	15	08	72
Agree	21	13	18	06	58
Moderately Disagree	02	02	02	01	07
Strongly Disagree	01	01	01	00	03
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 8.224566   **NOT SIGNIFICANT**

Scale Index = 1.98

HR ASSETS ARE LIKE HIRE PURCHASE ASSETS
GRAPH-4.21

M.Disagree-7 3%
S.Disagree-3 1%
Agree-58 26%
S.Agree-85 38%
M.Agree-72 32%
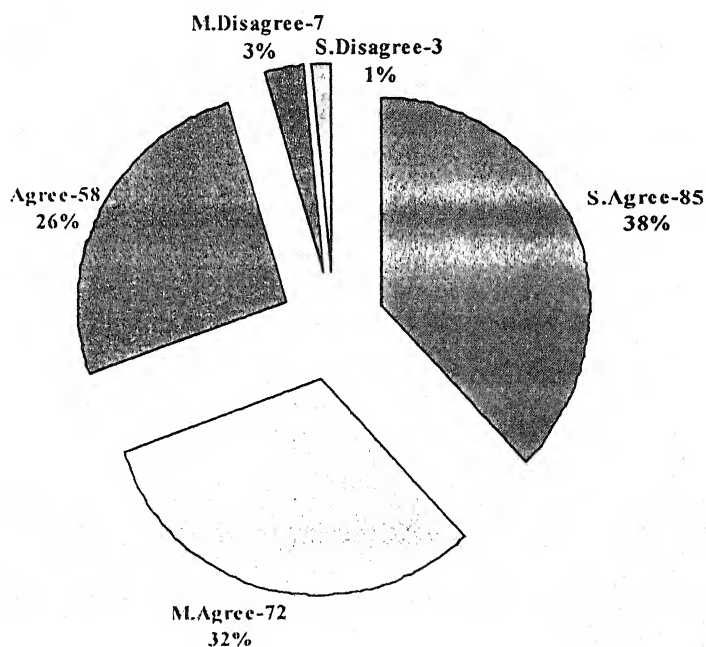
CHAPTER-V

HUMAN RESOURCES DEVELOPMENT:

- *An analysis of training and development programmer with particular reference to benefit's in the forms of improvement in human resources and its impact on organizational performance the duration for which such benefit's last also forms parts of the analysis.*

- *This forms the basis of allocation of training and development cost over a period for which benefits are received by the organization .the chapter will be dealt with the current human resources development practice in sample organizations.*

CHAPTER- V

HUMAN RESOURCE DEVELOPMENT

The training and development of human resource is an important activity in any organisation. It has become essential as all types of jobs in the organisation generally require some type of training and development for efficient and effective performance.

" Training is the act of increasing the knowledge and skills of an employee for doing a particular job"[1]. Training is a continuous process which improves the performance of an employee. It includes learning of techniques which are required for better performance of defined tasks.

Human Resource Development is the process of increasing the knowledge, skills and capabilities of the people in the organisation. It means growth of an individual in all respects. Development of human resource includes " all those activities and programmes, which have substantial influence on changing the capacity of the individual to perform his present assignment better and in so doing are likely to increase his potential for future management assignments".[2]

This chapter analyses the perceptions of the respondents regarding various aspects of training and development in organisations. The respondents were asked several questions and that the data generated form these questions has been classified into four sectors as explained in chapter 1 and Chi-square test has been used to test whether there is significant difference of opinion between the respondents of four

---

[1] Edwin B. Flippo, "Principles of Personnel management" McGraw-Hill, Tokyo; 1981, P.209.

[2] National Industrial Conference Board, "The Management Record", March 1961, P. 8.

sectors or not. The scale index (mean) has been calculated to find the average score on five point scale to make the analysis easier.

I. HUMAN RESOURCE DEVELOPMENT PRACTICES

An effort has been made to indentify current practices in the sample orgainsation regarding training and development of human resource. The variables/facets investigated regarding practices of training and development are given below :

1. Table 5.1 shows that organisational environment to a considerable extent provides opportunity for growth and development (scale index 2.36). The chi-square value is significant in this table which is due to the differences between the private and government sectors. It is evident from the responses that organisational environment in private sector (both manufacturing and service) provides to a greater extent opportunity for growth and development as compared to government sectors (both manufacturing and service). (Table 5.1)

2. The procedure for identification of training and development needs is subjective rather than systematic and objective to some extent evident from scale index of 2.78 shown in Table 5.2.

3. Table 5.3 indicates that communication of policies procedures, practices etc. to human resource regarding training and development are to some extent only (scale index 2.77)

Table – 5.1
OPPORTUNITY FOR GROWTH & DEVELOPMENT IN ORG. ENVIRONMENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Very Much	14	14	14	03	45
Much	08	12	08	04	32
Little	02	10	01	05	18
Very little	01	08	01	08	18
Least	00	06	01	05	12
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 31.97222   **SIGNIFICANT**
Scale Index = 2.36

OPPORTUNITY OF DEV.IN ORG.ENVIRNMENT
GHAPH-5.1

Least-12 10%

Very little-18 14%

Very Much-45 36%

Little-18 14%

Much-32 26%
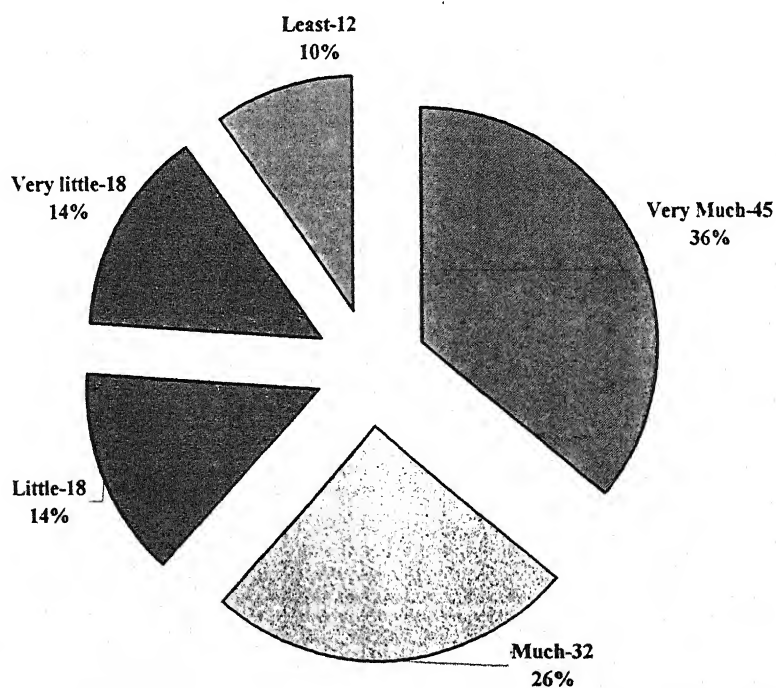
Table – 5.2

INDENTIFICATION OF TRAINING AND DEVELOPMENT NEEDS IS SUBJECTIVE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	02	14	00	08	24
To a considerable extent	08	14	07	06	35
To some extent	06	09	07	05	27
To a little extent	05	07	07	04	23
Not at all	04	06	04	02	16
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 14.50572   **NOT SIGNIFICANT**

Scale Index = 2.776

T& D NEED INDETIFICATION IS SUBJECTIVE
GHAPH-5.2

Not at all 13%

To a great extent 19%

To a little extent 18%

To a considerable extent 28%
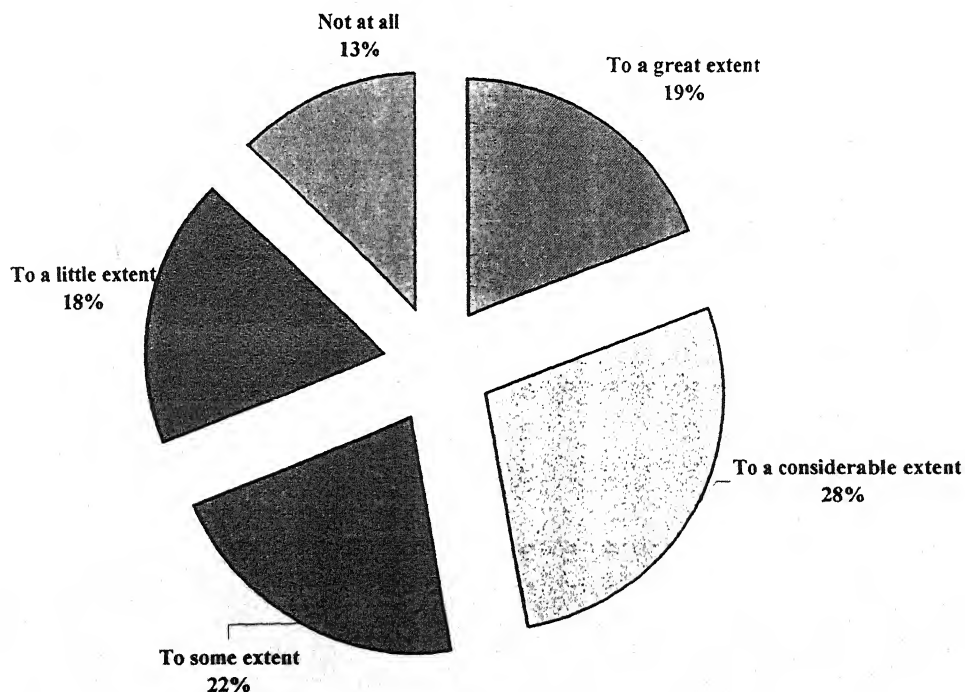
To some extent 22%

Table – 5.3

COMMUNICATION OF T & D POLICIES, PROCEDURES, PRACTICES, ETC.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	05	13	03	02	23
To a considerable extent	11	12	06	05	34
To some extent	06	11	05	07	29
To a little extent	02	09	08	08	27
Not at all	01	05	03	03	12
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 13.44937   **NOT SIGNIFICANT**

Scale Index = 2.768

COMMUNICATION OF T&D POLICIES, ETC
GHAPH-5.3

Not at all 10%

To a great extent 18%

To a little extent 22%

To a considerable extent 27%

To some extent 23%
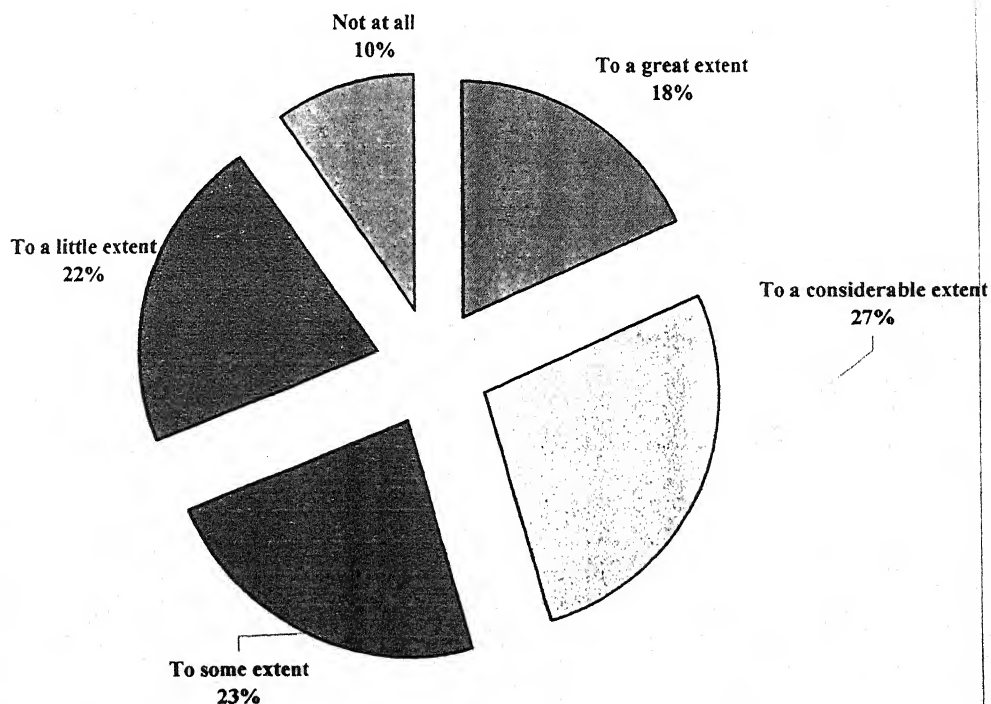
4. The training and development aids such as manuals pamphlets, graphs and charts, displays, posters, movies, OHP, still porjector, flash cards, case studies etc. are satisfactory (Table 5.4, Scale index 2.78)

5. The facilities given for development programmes in the sample organisation are shown in Table 5.5. Eight facets or variables are used namely, fees for attending programmes, travel, cost, boarding & lodging cost, study material cost, subscription cost, membership of professional bodies, leaves facility, and participation in conference/seminars and the respondents were required to answer either yes of no. there is no significant value of chi-square, hence it can be said that there is insignificant difference between different sectors regarding the facilities given for development programmes. The scale index has not been calculated in this case as the responses are either yes or no only.

6. Table 5.6 is regarding frequency of proper briefing by the superior to the respondent regarding training and development programmes. The scale index of 3.2 indicates that proper briefing is given some times.

7. The scale index of 3 regarding frequency of updation programmes in the sample organisations imply that on an average yearly programme are conducted (Table 5.16)

Table – 5.4

AVAILABILITY OF T & D AIDS LIKE OHP, MOVIES, POSTERS, ETC

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	06	11	01	02	20
To a considerable extent	12	12	06	08	38
To some extent	05	10	07	09	31
To a little extent	02	09	07	04	22
Not at all	00	08	04	02	14
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 18.47625   **NOT SIGNIFICANT**
Scale Index = 2.776

AVAILABILITY OF T&D AIDS-OHP.,ETC
GHAPH-5.4
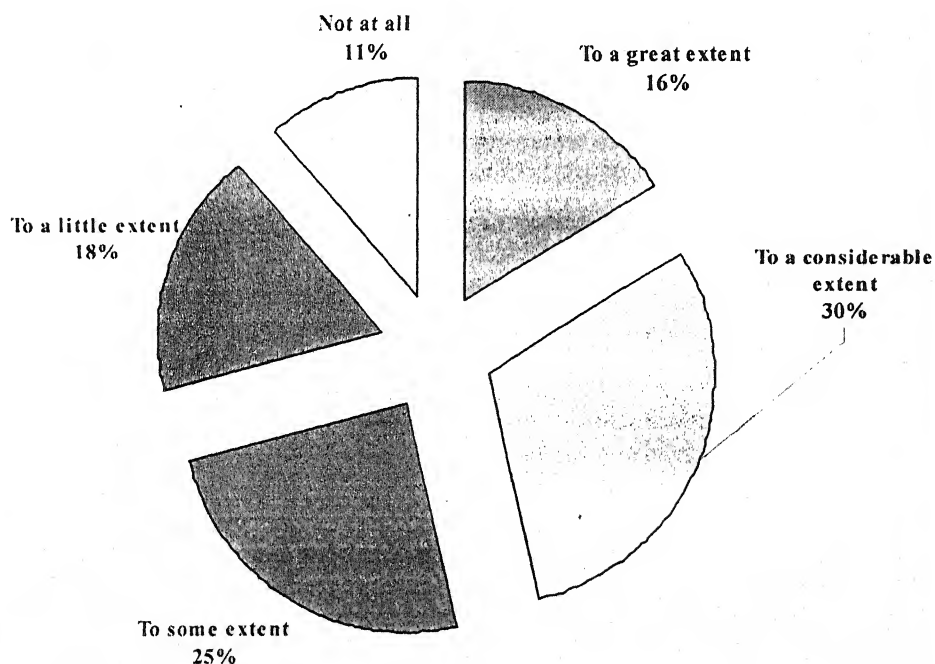
FACILITIES GIVEN FOR DEVELOPMENT PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
FEES FOR ATTENDING-					
Yes	22	35	17	20	94
No	03	15	08	05	31

Computed Value of Chi- Square = 3.925017

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Travel Cost					
Yes	22	43	18	20	103
No	03	07	07	05	22

Computed Value of Chi- Square = 2.951235

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Boarding & Lodging cost					
Yes	22	43	18	20	103
No	03	07	07	05	22

Computed Value of Chi- Square = 2.951235

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Study Material Cost					
Yes	18	30	16	17	81
No	07	20	09	08	44

Computed Value of Chi- Square = 1.192480

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Subscription Cost					
Yes	10	20	09	07	46
No	15	30	16	18	79

Computed Value of Chi- Square = 1.169510

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Membership for Professional Bodies					
Yes	05	20	07	09	41
No	20	30	18	16	84

Computed Value of Chi- Square = 3.411730

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Leave facility					
Yes	22	35	16	20	93
No	03	15	09	05	32

Computed Value of Chi- Square = 4.767305

Not Significant

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Participation in conference/seminars					
Yes	22	45	18	23	108
No	03	05	07	02	17

Computed Value of Chi- Square = 5.684912

Not Significant

Table – 5.6

PROPER BRIEFING BY SUPERIOR REGARDING T& D PROGRAMME

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Very often	04	07	01	02	14
Often	06	08	02	05	21
Sometimes	10	09	11	10	40
Rare	03	11	06	06	26
Never	02	15	05	02	24
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 17.05677   **NOT SIGNIFICANT**

Scale Index = 3.2

PROPER BRIEFING BY SUPERIOR REG. T&D
GHAPH-5.6
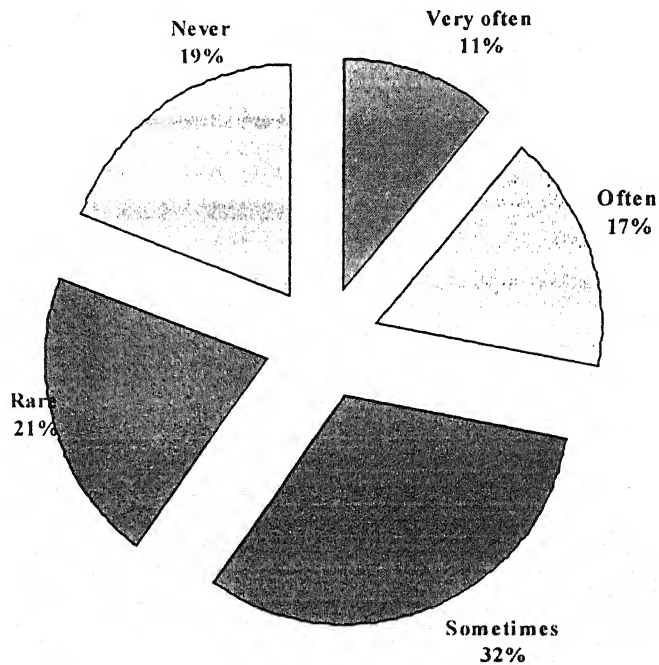
Table – 5.16
FREQUENCY OF UPDATION PROGRAMME IN YOUR
ROGANISATION FOR HR

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Monthly	02	05	02	02	11
Quarterly	06	08	04	06	24
Yearly	12	20	10	10	52
Bi-annually / Rarely	03	15	06	06	30
Not at all	02	02	03	01	08
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 5.694055   **NOT SIGNIFICANT**

Scale Index = 3

FREQUENCY OF UPDATION PROGRAMMES
GHAPH-5.16

Not at all 6%
Monthly 9%
Quarterly 19%
Bi-annually / Rarely 24%
Yearly 42%
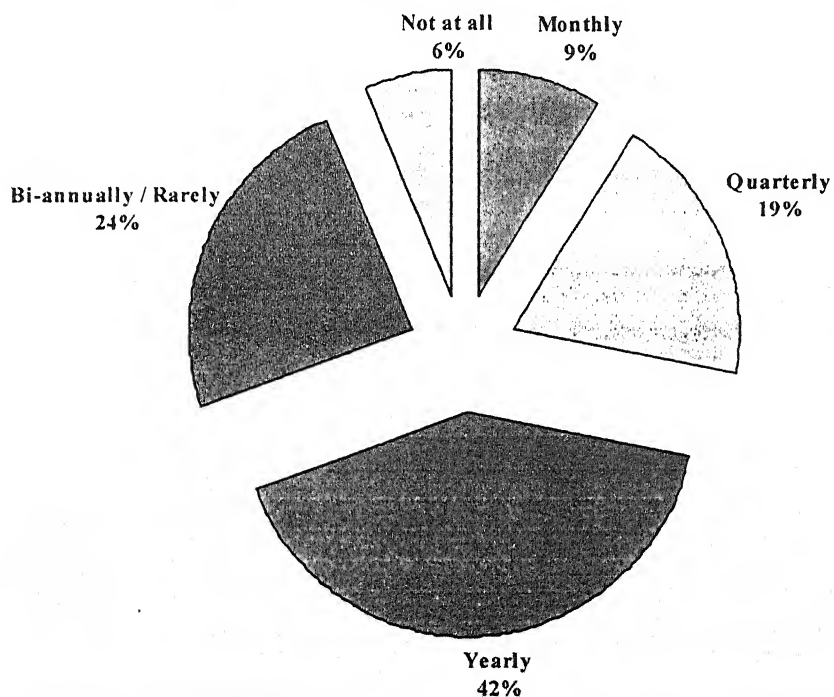
8. Table 5.17 shows that 48.8 % (61 out of 125) of the organisation conduct learning programme for human resources to enable them to get acquainted with job requirements.

9. There is not even a single organisation in the sample organisation which canduct training programmes for human resources to enable them to seek promotions within the organisations (Table 5.18) and 45.6% (57 out of 125) organisations do not conduct such programmes at all.
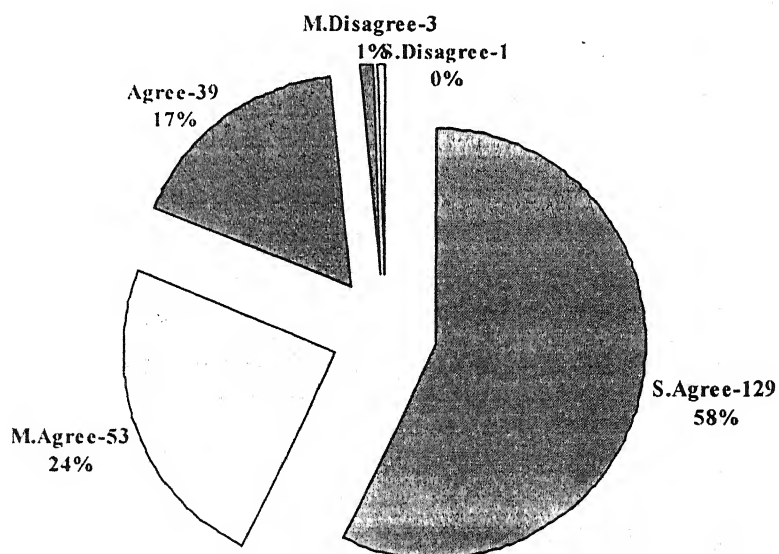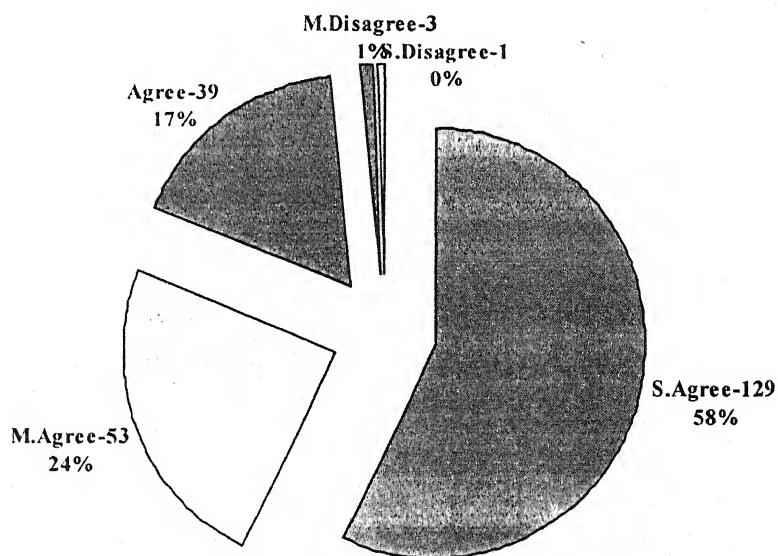
10. There is significant difference between different sectors regarding the basis of internal promotion in sample organisations as the chi-square value is 49.57. Table 5.19 clearly indicates that in the GSMC 72% (18 out of 25) and in the case of GSSC 20% (10 out of 50) follow the basis of pure seniority for internal promotion. Whereas only 1 out of 25 in case of PSMC and 2 out of 25 in case of PSSC follow pure seniority as

the basis for internal promotion is the major point leading to significant value of chi-square. There is no organisation in the GSMC sector following the basis of pure merit of internal promotions. In total 7.2% (9 out of 125) organisations are following pure merit as the basis for internal promotions.

Seniority cum merit is the most popular basis in the private sector (both manufacturing and service). Table 5.19 shows that 76% (19 out of 25) in PSSC sector and 72% (18 out of 25) in PSMC sector follow the basis of seniority cum merit for internal promotion. In the GSSC sector also this practice is popular as 66% (33 out of 50) are using this basis for internal promotion. In total 58.4% (73 out of 125) organisations are following seniority cum merit as the basis for internal promotion.

Table – 5.17

LEARNING PROGRAMMES FOR ACQUAINTING WITH JOB REQUIREMENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
For all levels	12	30	07	12	61
For high levels	03	04	05	02	14
For middle levels	04	06	07	04	21
For lower levels	04	08	04	06	22
Not at all	02	02	02	01	07
Total	**25**	**50**	**25**	**25**	**125**

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 10.09261   **NOT SIGNIFICANT**
Scale Index = 2.2

LEARNING PROG. FOR ACQUAINTING WITH JOB
GHAPH-5.17

Not at all
6%

For lower levels
18%

For all levels
48%

For middle levels
17%
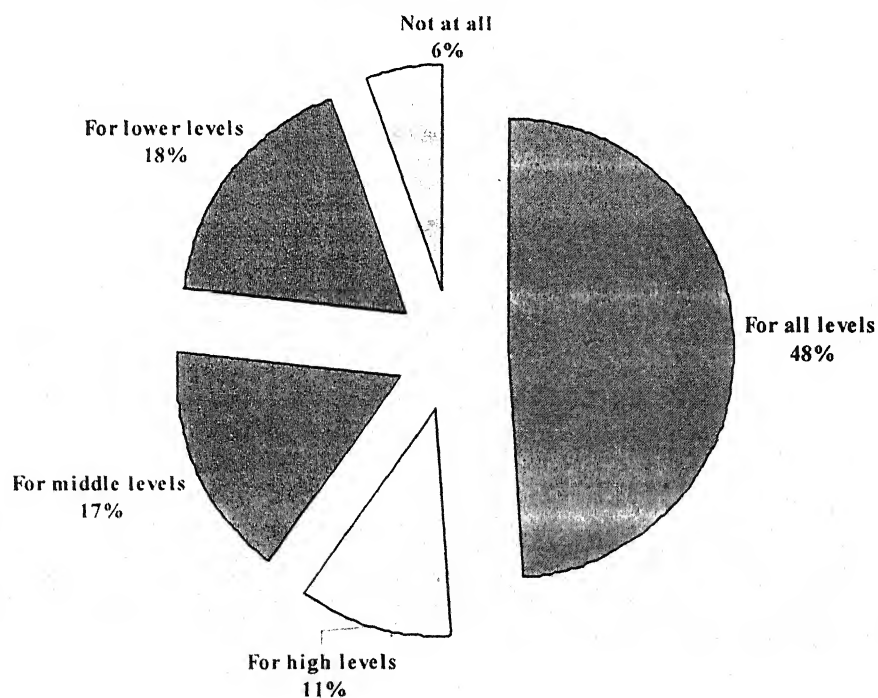
For high levels
11%

Table – 5.18

TRAINING PROGRAMME FOR SEEKING INTERNAL PROMOTION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
For all levels	00	00	00	00	00
For high levels	00	00	00	00	00
For middle levels	08	13	05	06	32
For lower levels	07	18	05	06	36
Not at all	10	19	15	13	57
Total	25	50	25	25	125

D.F. = 06, Table Value at (0.05) = 12.59

Computed value of CHI SQUARE – 4.678819   **NOT SIGNIFICANT**

Scale Index = 4.2

TRAINING PROG. FOR INTERNAL PROMOTION
GHAPH-5.18

For all levels 0%
For high levels 0%
For middle levels 26%
Not at all 45%
For lower levels 29%

<div align="center">
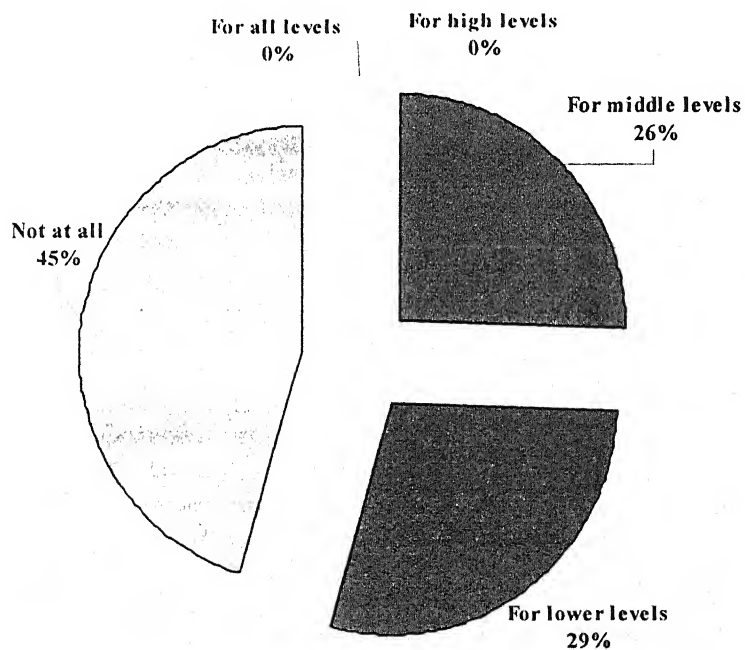
Table – 5.19

BASIS OF INTERNAL PROMOTION IN YOUR ORGANISATION

</div>

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Pure Merit	02	04	03	00	09
Seniority Cum Merit	19	33	18	03	73
Pure Seniority	02	10	01	18	31
Other Considerations	01	02	02	04	09
No internal Promotion	01	01	01	00	03
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 49.56891   **SIGNIFICANT**

Scale Index = 2.392

<div align="center">

BASIS OF INTERNAL PROMOTION
GHAPH-5.19

</div>
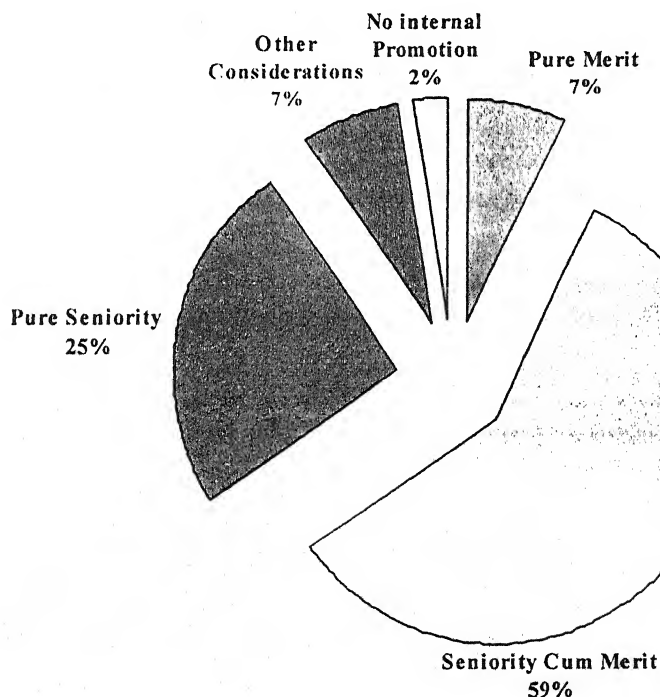
11. Table 5.26 is a summary table regarding the support of top level management towards training and development programmes covering twelve facets/variables tested on a five point scale namely, to a great extent, to a considerable extent , to same extent , to a little extent ,and not at all. Table 5.13 (1) to 5.13 (12) contains responses for each variable separetly placed at the end of the chapter under appendices. The pie chart has been used to graphically present the responses given in each table taking only the figures given in the last column of the table under the heading 'TOTAL'.

The combined scale is 3.3 as shown in Table 5.26 which means that the support of top level management regarding training and development programmes is to some extent only.

The chi-square values are not significant except in two cased which are explained separatley. Table 5.15 (9) is regarding follow up of trained and developed human resource. It is showing significant value of chi-square but it is at the margin as the computed value is 21.45 and the table value is 21.03. The significant value is due to the difference of opinion in government and private sectors. Follow up is less in the government sector (both manufacturing and service and relatively more in the private sector.) Table 5.15 (10) is regarding utilisation of trained and developed human resource where the chi-square value is significant due to the differences between the government and the private sectors. Utilisation of trained and developed human resource is less in the government sector (both manufacturing and service) as compared to the private sector.

TABLE – 4.1

SUMMARY TABLE SHOWING

SUPPORT OF TOP MANAGEMENT IN T & D PROGRAMMES

T. No.	Particulars of Questions Asked	Chi-square	Scale Index
15(1)	Participation in designing T & D programme	11.18112	3.472
15(2)	Participation in inauguration, valediction, etc.	11.17216	2.488
15(3)	Participation in selection of Faculty	11.50651	3.088
15(4)	Management and Control of Programmes	13.23589	3.52
15(5)	Evaluation of T & D Programmes	15.32316	3.4086
15(6)	Participation as Faculty	9.893566	3.464
15(7)	General Guidelines and support	8.367086	2.8
15(8)	Identification of individual development need	5.338852	3.344
15(9)	Follow-up of trained and development HR	21.446*	3.384
15(10)	Utilisation of trained and development HR	22.92598*	3.392
15(11)	Review of Performance	3.02103	3.448
15(12)	Preparation of Career Development Programmes	10.21028	3.792
Total Scale Index			39.6006
Combined Scale Index			3.30005

Not : 1. Table given above represents data for 125 respondents

2. Represents significant value of Chi-square.

II.   BENEFITS OF TRAINING AND DEVELOPMENT PROGRAMMES

1. Table 5.7 shows that opportunity to implement in actual job the knowledge, techniques etc., learned in the training and development programmes is to a considerable extent which is evident form the scale index of 2.33.

2. The respondents were asked to place themselves with regard to twenty skills before and after attending the training and/or development

programme (S) on a five point scale (both before and after) namely, poor, average, good, very good, and excellent. There are twenty tables numbering Table 5.8 (1A) to 5.8 (20A) representing responses before attending the programme (S) for each skill. Twenty more tables are there numbering Table 5.8 (1B) to 5.8 (20B) representing responses after attending the programmes (S). These forty tables are placed in the appendices given at the end of this chapter. Table 5.24 is a summary table or the above mentioned 40 tables showing chi-square and scale index values.

It can be observed from Table 5.24 that after attending the programme (S) the skill level of respondents is not significantly different as no chi-square value is significant except the skill of 'maintenance' shown in Table 5.8 (17B). Whereas there are seven skills which are showing significant value of chi-square namely, Table 5.8 (3A), (4A), (7A), (15A), (16A), (17A), (20A) before attending the programme (S). This clearly indicates the positive impact of training and / or development on skill level of the respondents.

Table – 5.7
OPPORTUNITY TO IMPLEMENT IN JOB KNOWLEDGE LEARNED FROM T&D

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	05	21	04	05	35
To a considerable extent	10	15	07	06	38
To some extent	08	06	09	10	33
To a little extent	02	05	04	03	14
Not at all	00	03	01	01	05
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 16.24322 **NOT SIGNIFICANT**

Scale Index = 2.328

OPPO.TO IMPLEMENT KNOWLE. IN JOB
GHAPH-5.7

Not at all 4%

To a little extent 11%

To a great extent 28%

To some extent 26%

To a considerable extent 31%
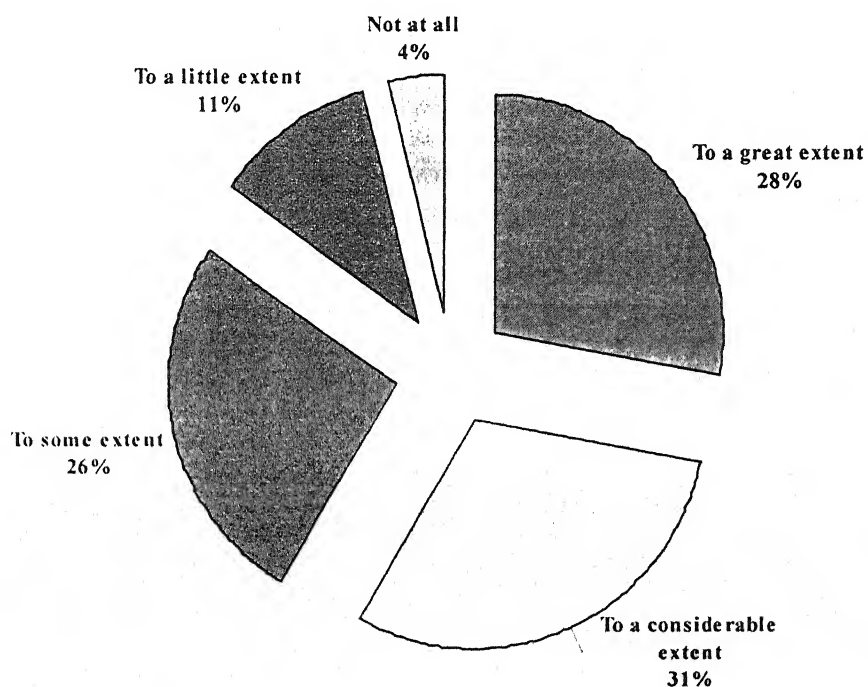
The combined scale index of twenty skills before attending the programme (S) is 3.25 which has increased after attending the programme (S) to 4.19 showing an increase of approximately 29% (Table 5.24).

One interesting feature in these forty tables regarding twenty skills is that no respondent has rated himself as poor in any of the twenty skills. Further, in almost all these tables regarding skills, there is improvement after attending the training and or development programme (S) and the improvement in each case is very near to the combined scale index i.e. improvement in each skill is very close to 29%. It is also important to note here that after attending the programme (S) the scale index in each case is above 4 which means that scale index is above very good.

The line graph has been used to show the improvement in the skills by taking the figures given in the column with the heading 'TOTAL' in each table. One graph represent two sets of total figures of two tables namely A and B regarding the same skill, like graph 5.8 (1) represents two lines, one for skill level before attending [Table 5.8 (1A)] and the other for after attending table 5.8 (1B) training and / or development programme (S). The line graph, in each case, is showing very clearly the improvement in the skills after attending the programme (S)

Each table has not been explained for the sake of brevity as the summary table 5.24 has been explained earlier

TABLE 5.24

SKILLS BEFORE & AFTER ATTENDING TRAINING & DEVELOPMENT PROGRAMMES SUMMARY TABLE

T. No.	Particulars of Questions Asked	Chi-square 8-A	Chi-square 8-B	Scale Index 8-A	Scale Index 8-B
5.8					
1.	Analytical ability	5.382621	4.727862	3.336	4.2
2.	Conceptual	9.632872	4.96875	3.224	4.144
3.	Human Relations	22.62509*	14.52822	3.248	4.112
4.	Communication	19.89319*	9.595812	3.208	4.144
5.	Quick decision making	13.08601	12.57155	3.248	4.184
6.	Adaptability	12.10019	11.67303	3.256	4.096
7.	Handling subordinates	20.51137*	15.4287	3.008	4.016
8.	Handling Grievance	12.81687	11.20004	3.208	4.176
9.	Initiative	7.876737	7.336309	3.16	4.112
10.	Planning	7.652547	7.60436	3.192	4.128
11.	Organising	4.238927	3.067675	3.376	4.248
12.	Controlling	8.603454	7.542987	3.352	4.176
13.	Coordinating	11.62109	7.809039	3.296	4.264
14.	Creativity	3.855377	2.588394	3.296	4.28
15.	Delegation of authority	17.19052*	13.71823	2.976	4.008
16.	Maintaining	28.8477*	21.40119*	3.104	4.072
17.	Accelerating	27.57318*	16.56687	3.184	4.221
18.	Alertness	16.6448	9.543791	3.376	4.376
19.	Technical competence	9.740786	6.643621	3.528	4.448
20.	Motivation	24.96794*	14.93065	3.392	4.408
Total Scale Index				64.968	83.816
Combined scale Index				3.2434	4.1908

Not : 1. Table given above represents data for 125 respondents

2. Represents significant value of Chi-square.

SKILLS BEFORE & AFTER T & D PROG.
GRAPH - 2.24
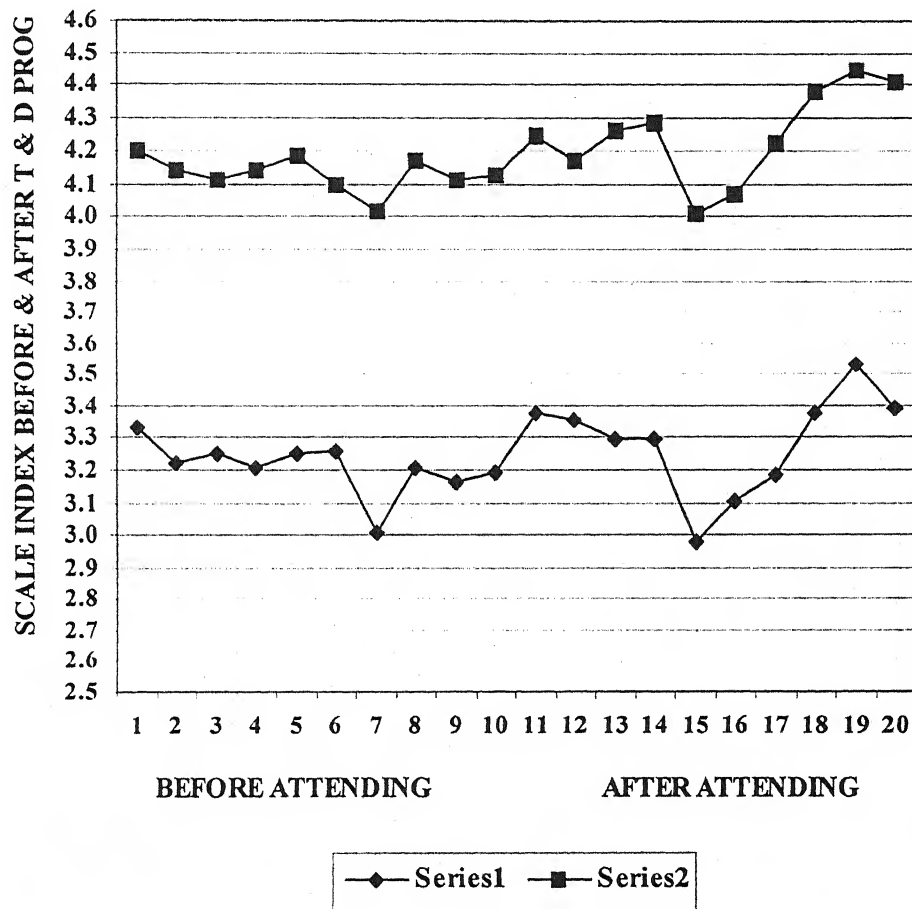
3. The respondents very strongly believe that the skill of the people can be really improved through training and development programmes. Table 5.9 shows that scale index for this variable is 1.7 which is near to considerable extent.

4. Table 5.10 is regarding the duration of usefulness or the skills improved through training and development programmes. The scale index is 3.37 which means that the duration of benefits is between 2 to 3 years on an average.

5. The impact of training and development programmes on increase in productivity is to a considerable extent as shown in table 5.11 with scale index of 1.8.

6. The training and development programmes icreases productivity and it remains for a long period of time. On an average the duration of such benefits is between 2 to 3 years (scale index 3.14, Table 5.12)

7. The respondents were asked to rate the training and development programmes in which they have participated on a five point scale namely, fully satisfied, fairly, satisfied, little satisfied, dissatisfied, and undecided five facets/variables were taken namely, course content, presentation, faculty, environment and overall for the said rating.

Table 5.13 (1) to 5.13 (5) are made to show the responses regarding each variable of rating. The pie chart has been used to show the rating of training and development programmes. The figures taken for making the pie chart is from the last column namely, 'TOTAL' and one pie chart shows the composition of responses pertaining to one facet of rating.

Table – 5.9

SKILLS OF HR CAN BE IMPROVED BY T AND D PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	13	25	11	12	61
To a considerable extent	09	18	10	10	47
To some extent	02	05	03	02	12
To a little extent	01	01	01	01	04
Not at all	00	01	00	00	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 2.482850　　　**NOT SIGNIFICANT**
Scale Index = 1.696

HR SKILLS CAN BE IMPROVED BY T&D PROG.
GHAPH-5.9
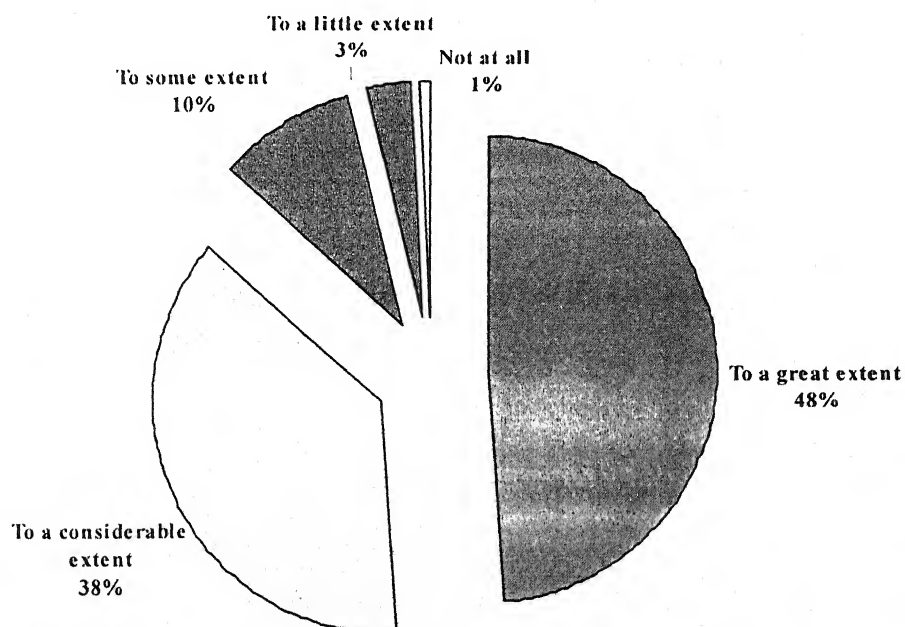
Table – 5.10

DURATION OF USEFULNESS OF SKILLS IMPROVED BY T AND D PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than a year	07	05	02	02	16
Between 1 & 2 years	04	07	05	03	19
Between 2 & 3 years	05	11	05	05	26
Between 3 & 5 years	04	13	05	09	31
More than 5 years	05	14	08	06	33
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 9.476035   **NOT SIGNIFICANT**

Scale Index = 3.368

USEFUL DURATION OF IMPROVED HR SKILLS
GHAPH-5.10

More than 5 years 26%

Less than a year 13%

Between 1 & 2 years 15%

Between 2 & 3 years 21%

Between 3 & 5 years 25%
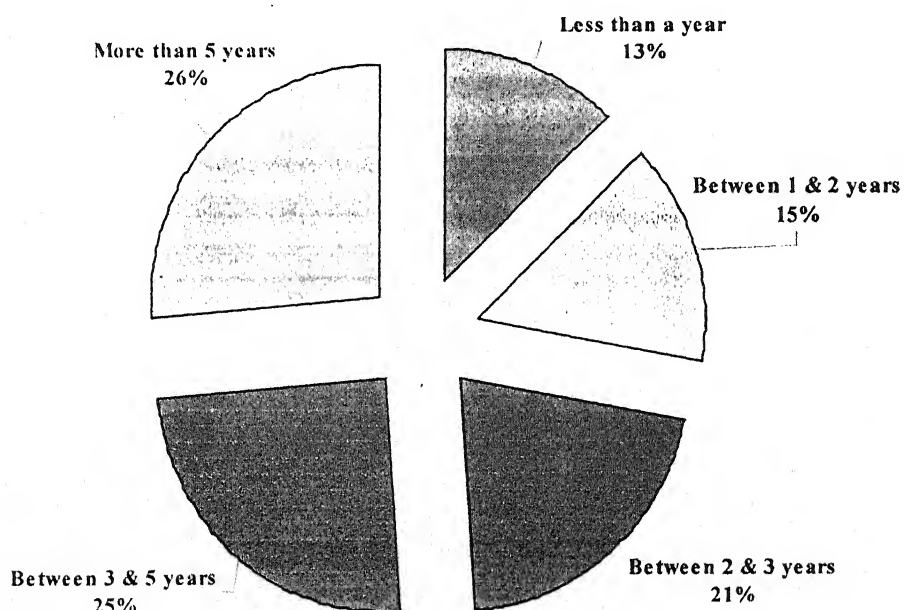
Table – 5.11

IMPACT OF T & D PROGRAMMES ON INCREASE IN PRODUCTIVITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	11	20	10	12	53
To a considerable extent	10	19	09	10	48
To some extent	04	10	05	02	21
To a little extent	00	00	01	01	02
Not at all	00	01	00	00	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.493851   **NOT SIGNIFICANT**
Scale Index = 1.8

INCREASE IN PRODUCTIVITY T&D IMPACT
GHAPH-5.11

To a little extent
2%
Not at all
1%

To some extent
17%

To a great extent
42%

To a considerable
extent
38%
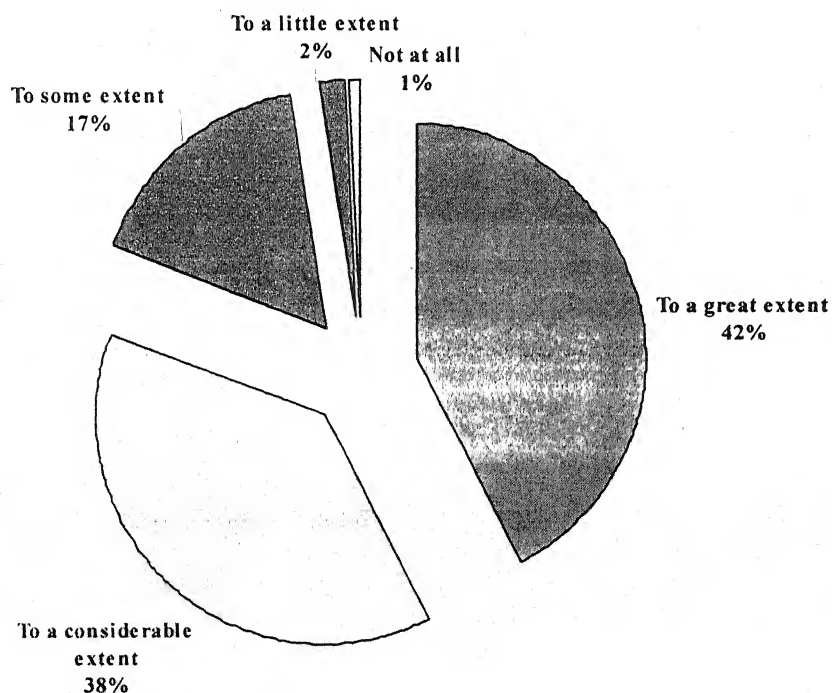
Table – 5.12

DURATION OF INCREASE IN PRODUCTIVITY BY T & D PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than a year	06	08	03	02	19
Between 1 & 2 years	07	09	05	04	25
Between 2 & 3 years	03	12	04	06	25
Between 3 & 5 years	05	13	05	08	31
More than 5 years	04	08	08	05	25
Total	**25**	**50**	**25**	**25**	**125**

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 8.431910   **NOT SIGNIFICANT**

Scale Index = 3.144

IMPROVED PRODUCTIVITY - USEFUL DURATION
GRAPH-5.12

More than 5 years 20%

Less than a year 15%

Between 1 & 2 years 20%

Between 3 & 5 years 25%

Between 2 & 3 years 20%
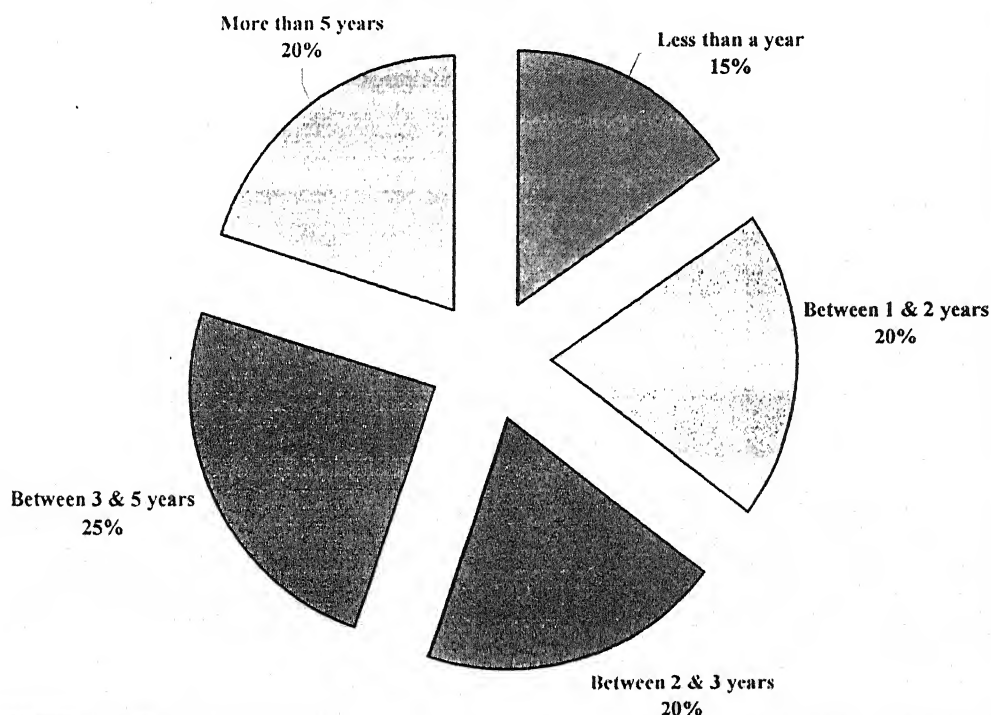
Table – 5.13 (1)

RATING OF T & D PROGAMMES ATTENDED – COURSE CONTENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully satisfied	06	20	08	07	41
Fairly satisfied	15	25	13	14	67
Little satisfied	04	05	03	03	15
Dis- satisfied	00	00	01	00	01
Undecided	00	00	00	01	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 10.41172   **NOT SIGNIFICANT**
Scale Index = 1.832

RATING OF T&D PROG. COURSE CONIENT
GHAPH-5.13(1)

Dis- satisfied 1%
Undecided 1%
Little satisfied 12%
Fully satisfied 33%
Fairly satisfied 53%
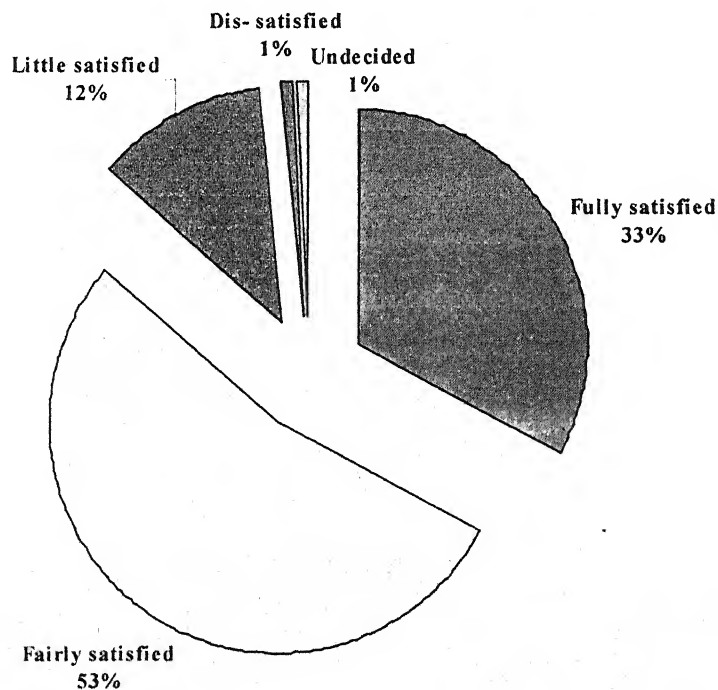
Table – 5.13 (2)

RATING OF T & D PROGRAMMES ATTENDED- PRESENTATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully satisfied	10	15	08	07	40
Fairly satisfied	08	25	11	12	56
Little satisfied	05	10	05	05	25
Dis- satisfied	02	00	01	00	03
Undecided	00	00	00	01	01
Total	**25**	**50**	**25**	**25**	**125**

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 11.29761   **NOT SIGNIFICANT**
Scale Index = 1.952

RATING OF T&D PROG. PRESENTION
GHAPH-5.13(2)

Dis- satisfied 2%
Undecided 1%
Little satisfied 20%
Fully satisfied 32%
Fairly satisfied 45%
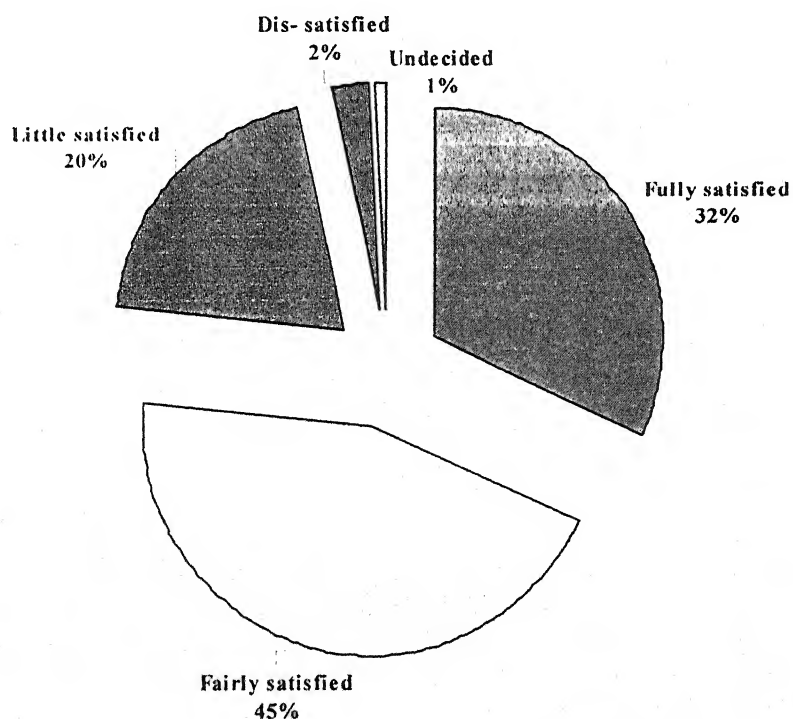
Table – 5.13 (3)

RATING OF T & D PROGAMMES ATTENDED – FACULTY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully satisfied	1O	17	05	07	39
Fairly satisfied	11	26	16	14	75
Little satisfied	03	07	04	03	16
Dis- satisfied	01	00	00	00	01
Undecided	00	00	00	01	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 11.O2429   **NOT SIGNIFICANT**
Scale Index = 1.864

RATING OF T&D PROG. FACULTY
GHAPH-5.13(3)

Dis- satisfied 1%
Undecided 1%
Little satisfied 12%
Fully satisfied 30%
Fairly satisfied 56%
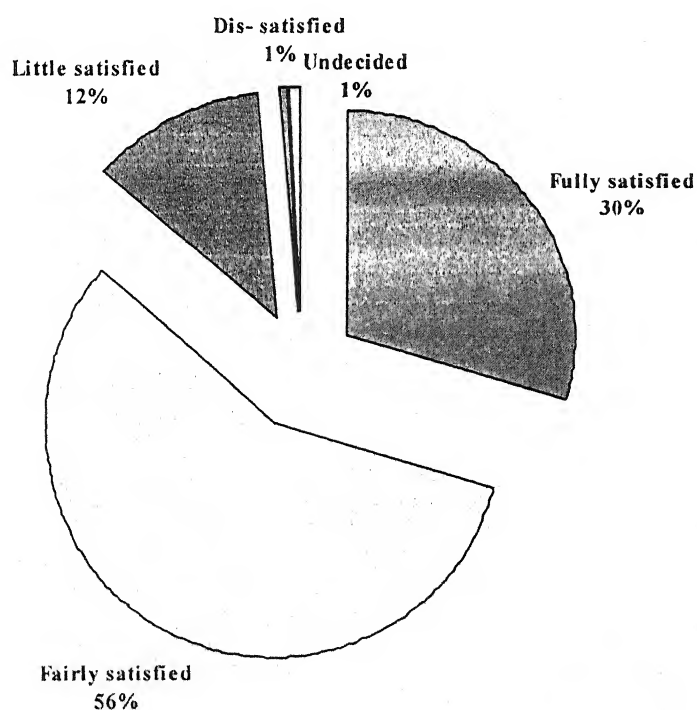
Table – 5.13 (4)

RATING OF T & D PROGAMMES ATTENDED – ENVIRONMENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully satisfied	09	15	06	06	36
Fairly satisfied	12	23	12	13	60
Little satisfied	03	08	06	04	21
Dis- satisfied	01	04	01	01	07
Undecided	00	00	00	01	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 7.000000   **NOT SIGNIFICANT**

Scale Index = 2.016

RATING OF T&D PROG. ENVIRONMENT
GHAPH-5.13(4)

Dis- satisfied 6%

Undecided 1%

Little satisfied 17%

Fully satisfied 29%

Fairly satisfied 47%
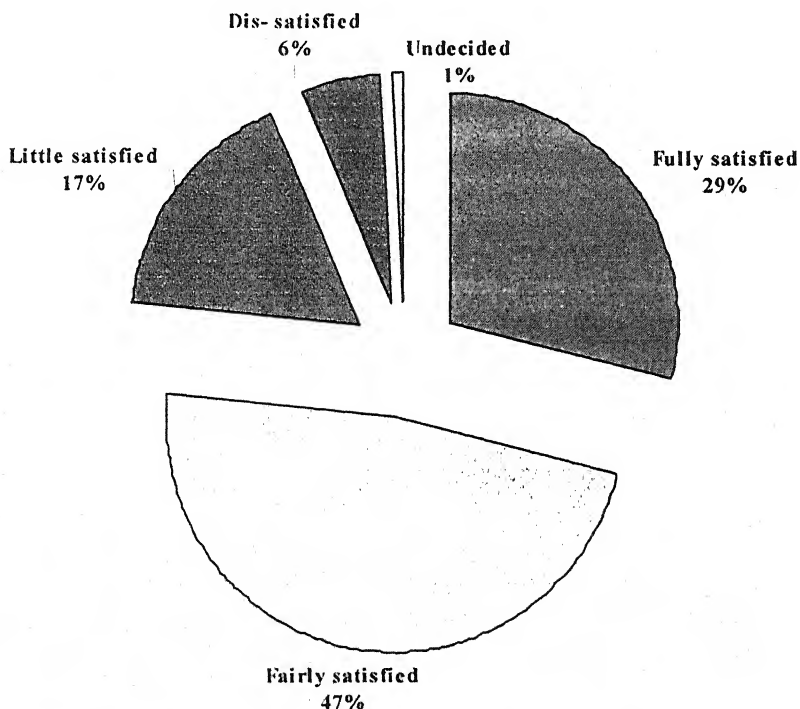
Table – 5.13 (5)
RATING OF T & D PROGAMMES ATTENDED – OVERALL

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Fully satisfied	07	14	05	06	32
Fairly satisfied	15	32	14	14	75
Little satisfied	03	04	05	04	16
Dis- satisfied	00	00	01	00	01
Undecided	00	00	00	01	01
Total	**25**	**50**	**25**	**25**	**125**

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 10.89166   **NOT SIGNIFICANT**

Scale Index = 1.912

RATING OF T&D PROG. OVERALL
GHAPH-5.13(5)

Dis- satisfied 1%
Undecided 1%
Little satisfied 13%
Fully satisfied 26%
Fairly satisfied 59%
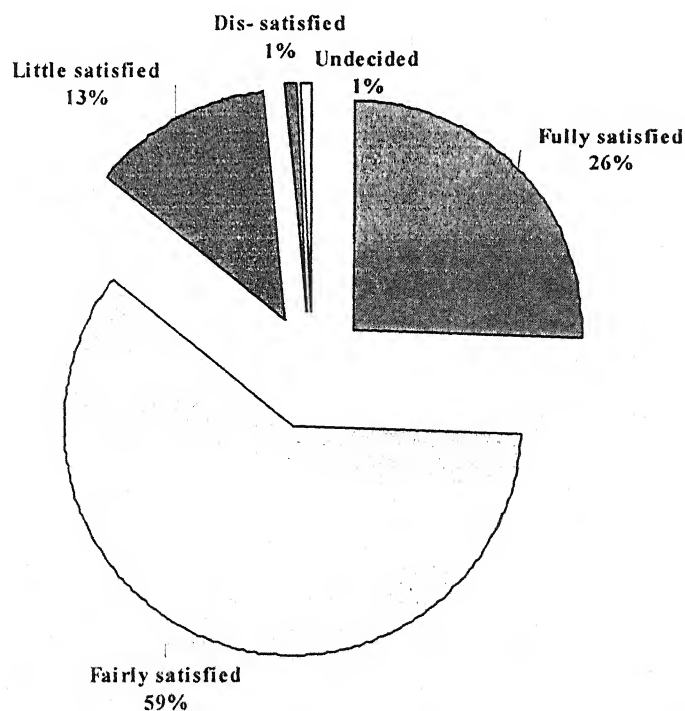
Table 5.25 is a summary table showing the rating given by the respondents of the training and development programmes attended. There is no chi-square value which is showing significant difference between the responses. The combined scales index is 1.92 which is very close to ' fairly satisfied'. It means that the respondents on the whole are fairly satisfied with the training and development programmes attended.

Table 5.25
SUMMARY TABLE SHOWING RATING OF T & D PROGRAMMES ATTENDED

T. No.	Particulars of questions asked	Chi-Square	Scale index
5.			
13(1)	Course content	10.41172	1.832
13(2)	Presentation	11.29761	1.952
13(3)	Faculty	11.02429	1.864
13(4)	Environment	7	2.016
13(5)	Overall	10.89166	1.912
Total Scale Index			9.576
Combined Scale Index			1.9152

8. Table 5.20 is regarding the duration of return or benefits from updation programmes in the from increase in productivity. The scale index of 2.76 indicates that the duration on an average is more than one year and lie between two to three years.

9. The duration of benefits from learning programmes in the form of incresae in productivity is between two to three years as shown in table 5.21 having a scale index of 2.95.

10. Training programmes also improve productivity and the period or duration of return of benefits is again between two to three years on an average as shown in Table 5.22 having a scale index of 3.06.

11. Table 5.14 pertains to a question which was asked to check the reliability of the responses in Part-III of the questionnaire, as there were to questions in Part-II of the questionnaire. The respondents were given a statement "It is a general feeling that training and development programmes are of little practical use except for providing a day-off to the manager". The scale index of 4.09 strongly oppose this view and hence the implication is that it favours the need for training and development programmes for improvement in efficiency and effectiveness.

The summary Table 5.23 is for ready reference and contains the chi-square and scale index values of various tables pertaining to various aspects of training and development which have been elaborated earlier.

Table – 5.20
DURATION OF INCREASE IN PRODUCTIVITY DUE TO UPDATION PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than a year	04	07	08	03	22
Between 1 & 2 years	11	13	06	05	35
Between 2 & 3 years	04	15	06	07	32
Between 3 & 5 years	04	09	04	06	23
More than 5 years	02	06	01	04	13
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 10.81321   **NOT SIGNIFICANT**
Scale Index = 2.76

DURATION OF INCREASED PRODUCITIVITY
GHAPH-5.20

Pie chart "DURATION OF INCREASED PRODUCITIVITY":
- More than 5 years 10%
- Less than a year 18%
- Between 1 & 2 years 28%
- Between 2 & 3 years 26%
- Between 3 & 5 years 18%
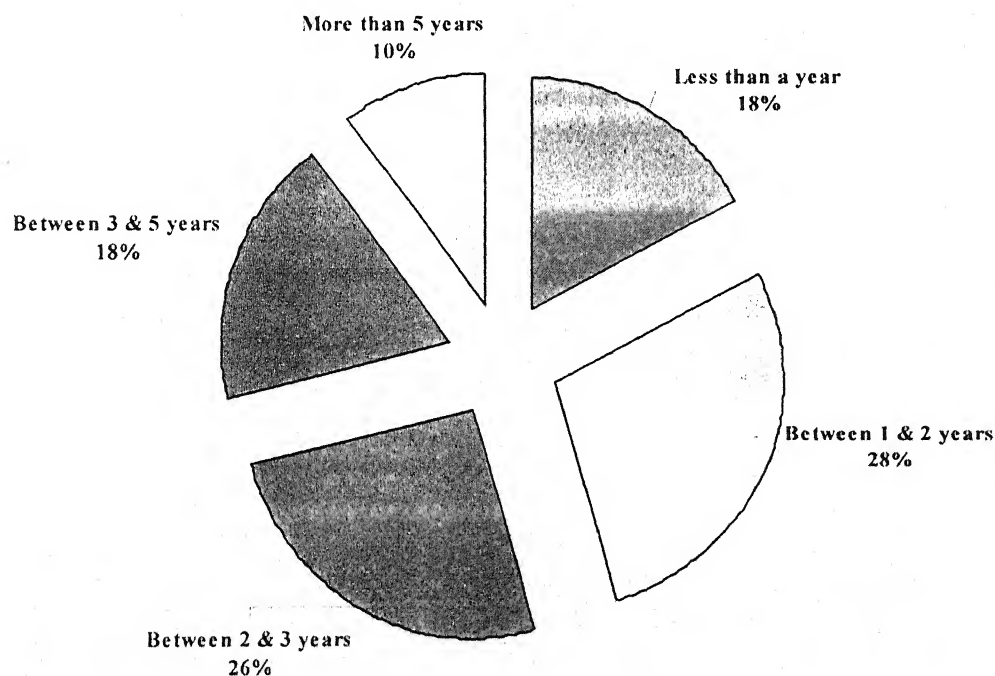
Table – 5.21

DURATION OF INCREASE IN PRODUCTIVITY DUE TO LEARNING PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than a year	03	05	09	03	20
Between 1 & 2 years	10	10	06	05	31
Between 2 & 3 years	05	11	05	08	29
Between 3 & 5 years	05	12	03	05	25
More than 5 years	02	12	02	04	20
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 17.19346   **NOT SIGNIFICANT**
Scale Index = 2.952

DURATION OF PROD.BY LEARNING PROG.
GHAPH-5.21

More than 5 years 16%

Less than a year 16%

Between 3 & 5 years 20%

Between 1 & 2 years 25%
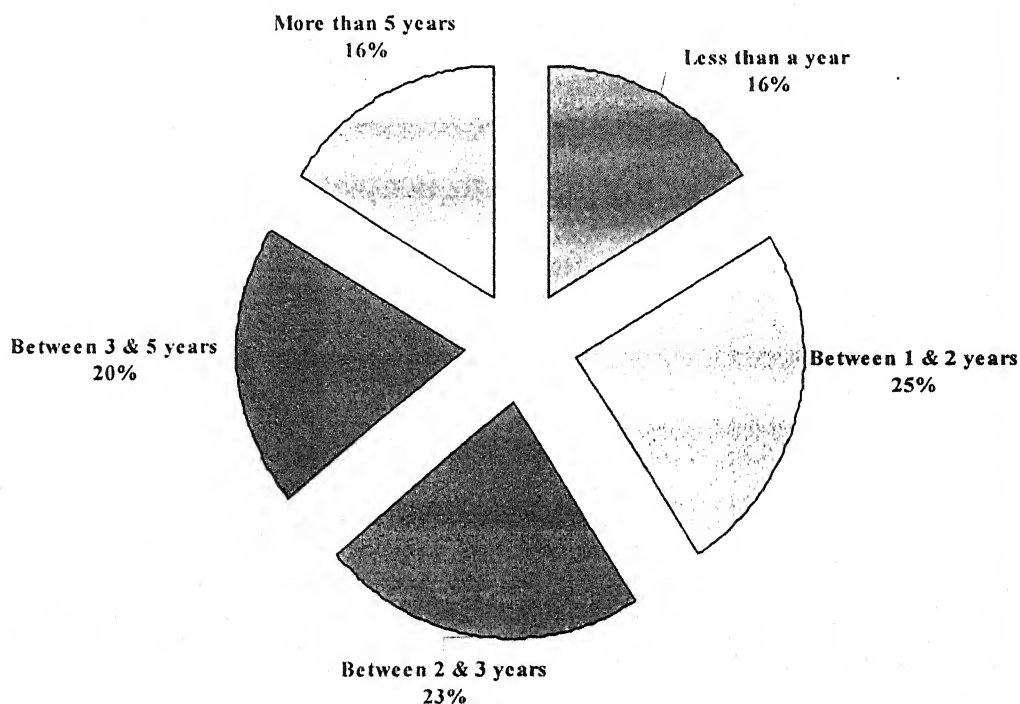
Between 2 & 3 years 23%

Table – 5.22
DURATION OF INCREASE IN PRODUCTIVITY DUE TO TRAINING PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than a year	01	06	08	02	17
Between 1 & 2 years	10	09	07	04	30
Between 2 & 3 years	07	10	03	09	29
Between 3 & 5 years	03	13	04	06	26
More than 5 years	04	12	03	04	23
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 19.97042   **NOT SIGNIFICANT**
Scale Index = 3.064

DURATION OF PROD.BY TRAIN. PROG.
GHAPH-5.22

More than 5 years
18%

Less than a year
14%

Between 1 & 2 years
24%

Between 3 & 5 years
21%

Between 2 & 3 years
23%
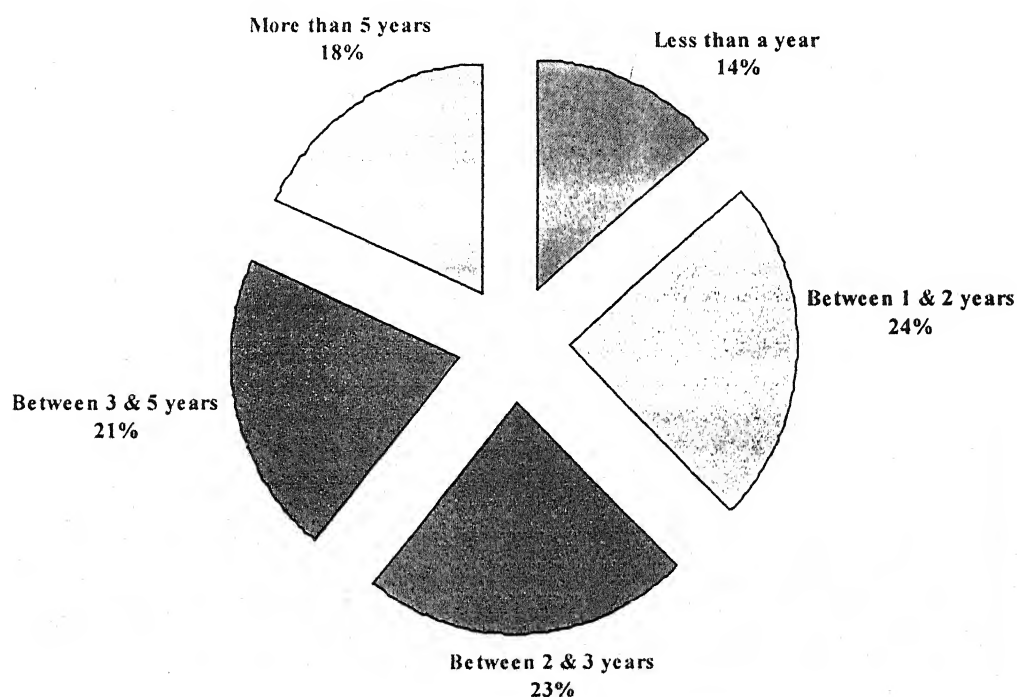
Table – 5.14
T & D PROGRAMMES PROVIDES ONLY A DAY-OFF TO THE MANAGERS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	01	00	00	02
To a considerable extent	02	04	01	01	08
To some extent	02	10	08	05	25
To a little extent	08	11	06	07	32
Not at all	12	24	10	12	58
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 7.110237   **NOT SIGNIFICANT**
Scale Index = 4.088

T&S PEOF.PROVIDES ONLY A DAY-OFF
GHAPH-5.14

To a great extent 2%

To a considerable extent 6%

To some extent 20%

To a little extent 26%

Not at all 46%
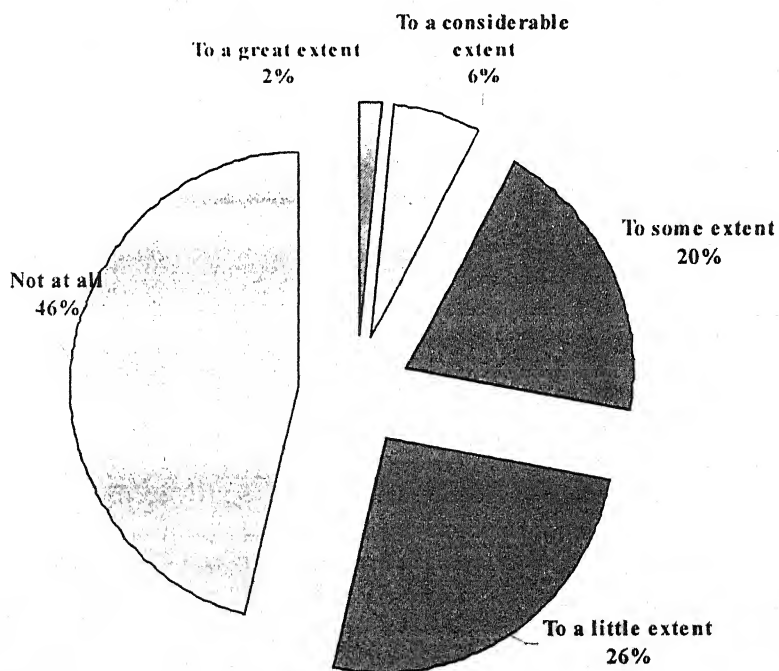
Table 5.23

SUMMARY TABLE REGARDING TRAINING AND DEVELOPMENT

T. No.	Particulars of questions asked	Chi-Square	Scale index
1.	Opportunity for growth & dev. In org. envirn	31.97222*	2.36
2.	Identification of T & D need is subjective	14.50572	2.776
3.	Communication of T & D policies, etc.	13.44937	2.768
4.	Availability of T&D aids like OHP, etc.	18.47625	2.776
5(1)	Fees for attending programmes	3.925017	
5(2)	Travel cost	2.951235	
5(3)	Boarding and Lodging cost	2.951235	
5(4)	Book/study Material cost	1.19248	
5(5)	Subscription cost	1.16951	
5(6)	Membership of professional bodies	3.41173	
5(7)	Leave facility	4.767305	
5(8)	Participation in conference / seminar	5.684912	
6.	Proper briefing by superior reg. T&D Porg.	17.05677	3.2
7.	Opportunity to implement knowledge in job	16.24322	2.328
8.	Skill of HR can be improved by T&D Prog.	2.48285	1.696
9.	Duration of usefulness of skills improved	9.476035	3.368
10.	Impact of T&D on increase in productivity	6.493851	1.8
11.	Duration of usefulness of productivity	8.43191	3.144
12.	T&D Prog. Provides only a day-off to managers	7.110237	4.088
13.	Frequency of updation prog. In your org.	5.694055	3
14.	Learning Prog. For acquainting with job needs	10.09261	2.2
15.	Training Prog. For seeking internal promotion	4.678819	4.2
16.	Basis of internal promotion in your org.	49.56891*	2.392
17.	Duration of increased prod. By updation Prog.	10.81321	2.76
18.	Duration of increased prod. By learning prog.	17.19346	2.952
19.	Duration of increased prod. By training prog.	19.97042	3.064

Note: 1. Table given above represents data for 125 respondents

2. *represents significant value of Chi-square

MAJOR FINDINGS

1. The facilities regarding training and development of human resource is satisfactory but identification of training and development needs is to some extent subjective rather than systematic and objective (Table 5.23)

2. The skills of Human Resource improve after attending training and / or development programme (S). Approximately 29% improvement was found in the 20 skills tested before and after attending training and development programme (S). The combined scale index (Mean) increased from 3.2484 to 4.1908 (app. 29%) (Table 5.24).

3. The respondent are fairly satisfied with the training and development programme attended and the rating is fairly high with the combined scale index of 1.92 which is closer to moderately agree with no significant difference between different sectors (Table 5.25).

4. The support of top management in the training and development programmes is to some 'extent only' which is reflected in the combined scales index of 3.3 involving twelve variables (Table 5.26).

5. The duration of benefits from updation, learning, training and development programmes in terms of increase in productivity is generally for a period more than a year and on an average it is between two to three years (Table 5.23)

From the above it can be concluded that the hypothesis 'there exists a positive relationship between development of human resource by the organisation and the benefits form efforts' is accepted.

Table – 5.8 – (1A)

ANALYTICAL ABILITY BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	02	02	04	03	11
Good	13	30	10	14	67
Very good	09	16	09	07	41
Excellent	01	02	02	01	06
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 5.382621   **NOT SIGNIFICANT**

Scale Index = 3.336

Table – 5.8 – (1B)

ANALYTICAL ABILITY AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	03	04	05	04	16
Very good	15	27	11	12	65
Excellent	07	18	09	09	43
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 4.727862   **NOT SIGNIFICANT**

Scale Index = 4.2

ANALYTICAL ABILITY SKILL
GRAPH-5.8(1A)

BEFORE & AFTER T/D PROG

BEFORE T/D PROG.   AFTER T/D PROG.

Poor   Average   Good   Very Good   Excellent

0   11   67   41   6
         11   16   65   43

Series1   Series2

Table – 5.8 – (2A)

CONCEPTUAL SKILL BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	03	03	06	05	17
Good	12	34	10	11	67
Very good	09	12	08	08	37
Excellent	01	01	01	01	04
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 9.632872   **NOT SIGNIFICANT**

Scale Index = 3.224

Table – 5.8 – (2B)

CONCEPTUAL SKILL AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	04	05	06	05	20
Very good	13	28	10	13	64
Excellent	08	16	09	07	40
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 4.968750   **NOT SIGNIFICANT**

Scale Index = 4.144

CONCEPTUAL SKILL

GRAPH-5.8(1B)

Chart plotting BEFORE & AFTER T/D PROG. across categories Poor, Average, Good, Very Good, Excellent.

Series1 values: Poor 0, Average 17, Good 67, Very Good 37, Excellent 4
Series2 values: Average 17, Good 20, Very Good 64, Excellent 40

Axis labels: BEFORE T/D PROG. (left), AFTER T/D PROG. (right)

Legend: Series1, Series2
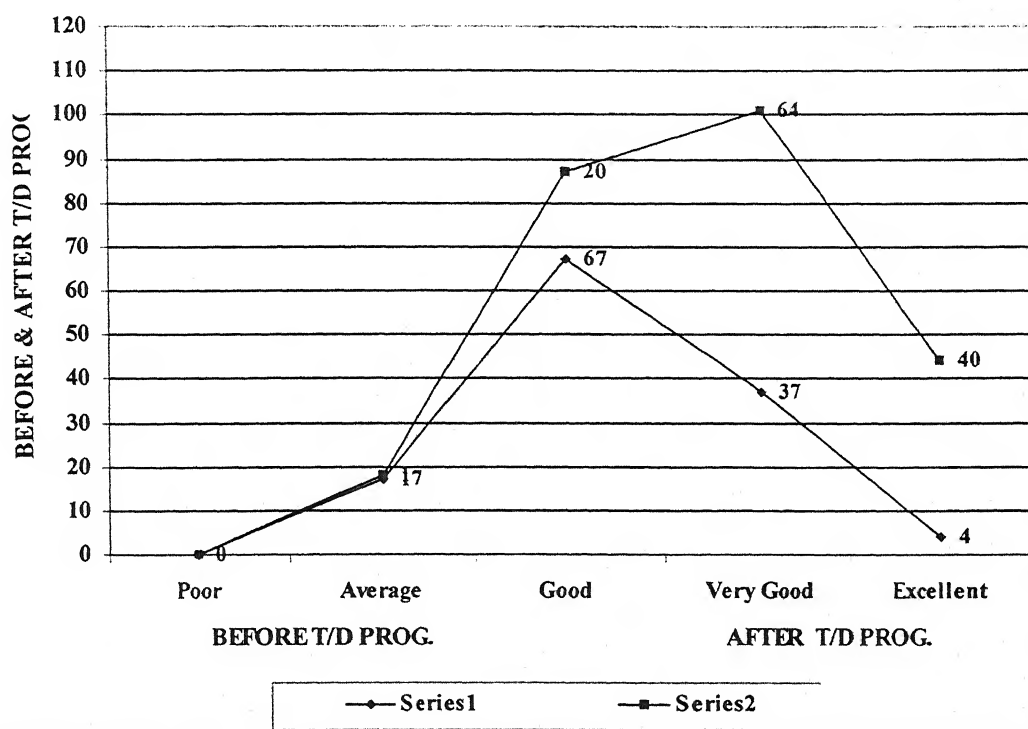
Table – 5.8 – (3A)

HUMAN RELATIONS BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	02	05	07	10	24
Good	08	28	09	12	57
Very good	11	12	08	02	33
Excellent	04	05	01	01	11
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 22.62509   **SIGNIFICANT**

Scale Index = 3.248

Table – 5.8 – (3B)

HUMAN RELATIONS AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	01	02
Good	02	06	10	07	25
Very good	11	26	08	10	55
Excellent	12	17	07	07	43
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 14.52822   **NOT SIGNIFICANT**

Scale Index = 4.114

148

HUMAN RELATION SKILL

GRAPH-5.8(3)

Chart: BEFORE & AFTER T/D PROG. plotted against Poor, Average, Good, Very Good, Excellent

Data points:
- Series1: Poor 0, Average 24, Good 57, Very Good 33, Excellent 11
- Series2: Average (26), Good 25, Very Good 55, Excellent 43

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
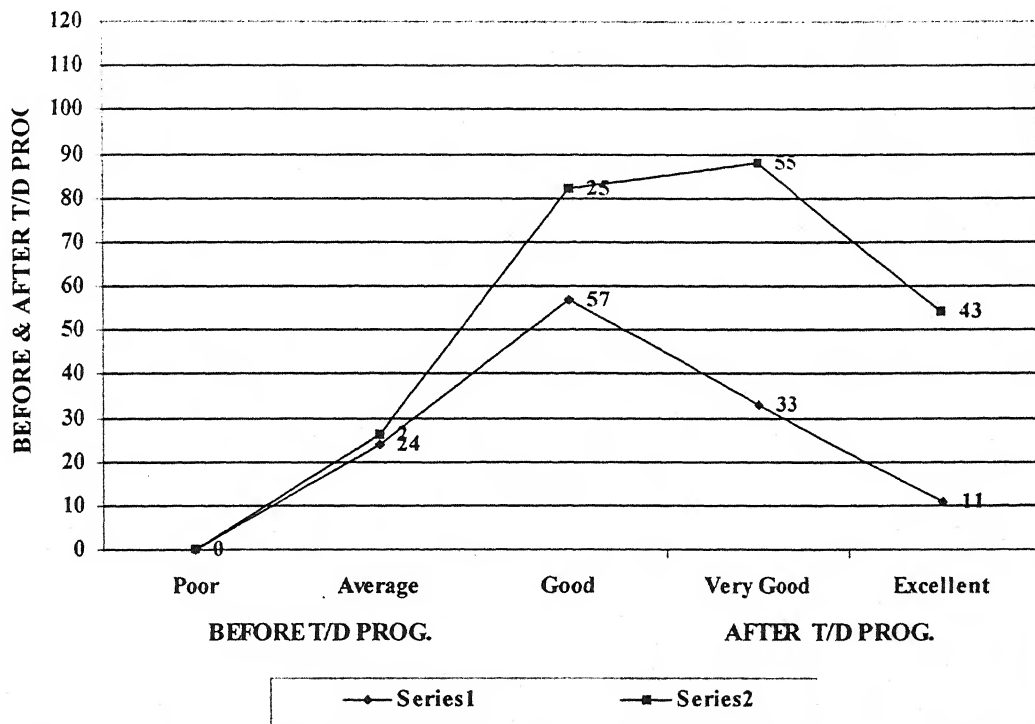
Table – 5.8 – (4A)

COMMUNICATION SKILL BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	04	02	04	08	18
Good	10	34	12	13	69
Very good	08	11	09	04	32
Excellent	03	03	00	00	06
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 19.89319   **SIGNIFICANT**

Scale Index = 3.208

Table – 5.8 – (4B)

COMMUNICATION SKILL AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	02	03
Good	05	03	04	05	17
Very good	11	28	13	12	64
Excellent	09	18	08	06	41
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 9.595812   **NOT SIGNIFICANT**

Scale Index = 4.144

COMMUNICATION SKILL

GRAPH-5.8(4)

BEFORE & AFTER T/D PROG

| | Poor | Average | Good | Very Good | Excellent |

Series1: 0, 18, 69, 32, 6
Series2: 0, 3, 17, 64, 41

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
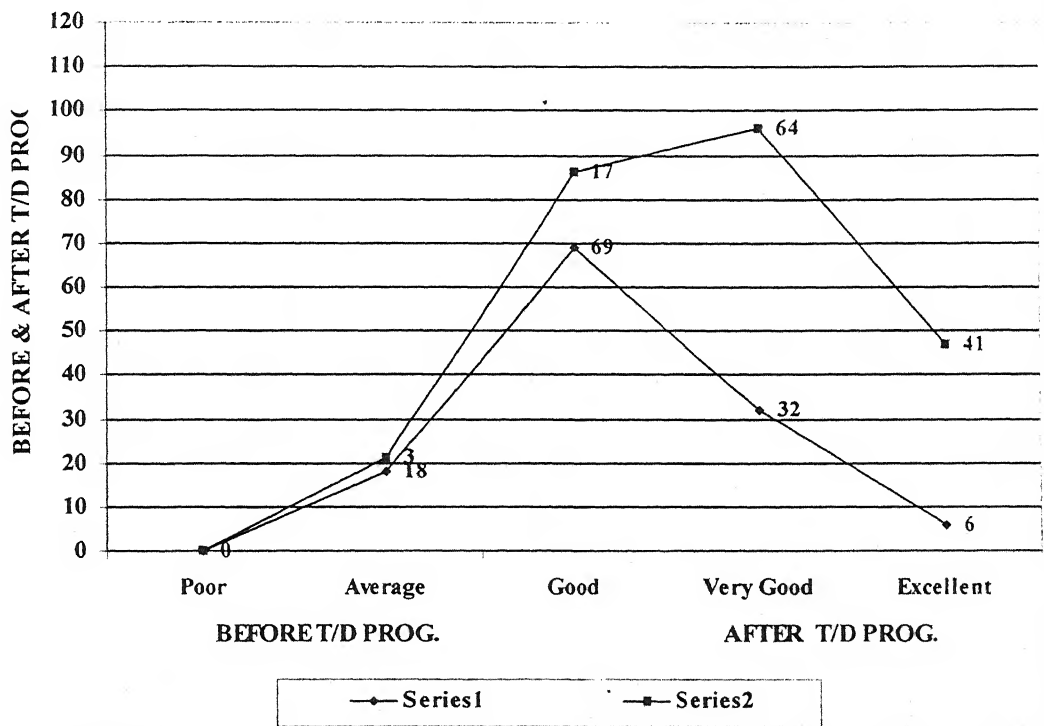
Table – 5.8 – (5A)

QUICK DECISION MAKING BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	05	01	05	03	14
Good	11	35	11	14	71
Very good	07	12	09	07	35
Excellent	02	02	00	01	05
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 13.08601   **NOT SIGNIFICANT**

Scale Index = 3.248

Table – 5.8 – (5B)

QUICK DECISION MAKING AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	00	00	01	01
Good	05	01	04	05	15
Very good	12	32	13	12	69
Excellent	08	17	08	07	40
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 12.57155   **NOT SIGNIFICANT**

Scale Index = 4.184

QUICK DECISION MAKING SKILL

GRAPH-5.8(5)

BEFORE T/D PROG.   **AFTER T/D PROG.**

Legend: ◆ Series1   ■ Series2

Y-axis: BEFORE & AFTER T/D PROG (0 to 120)

X-axis categories: Poor, Average, Good, Very Good, Excellent

Data labels: 0, 14, 71, 35, 5 (Series1); 15, 69, 40 (Series2)

153
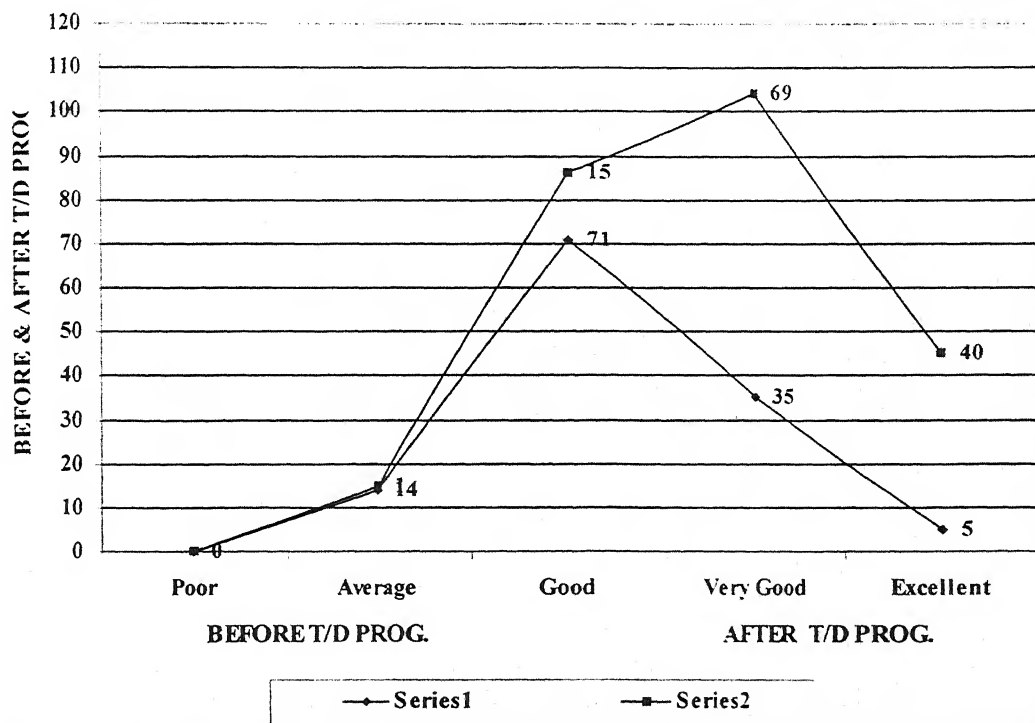
Table – 5.8 – (6A)

ADAPTABILITY SKILL BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	01	08	06	05	20
Good	11	29	08	15	63
Very good	10	10	08	04	32
Excellent	03	03	03	01	10
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 12.10019   **NOT SIGNIFICANT**

Scale Index = 3.256

Table – 5.8 – (6B)

ADAPTABILITY SKILL BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	04	08	08	04	24
Very good	10	27	08	17	62
Excellent	11	14	09	04	38
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 11.67303   **NOT SIGNIFICANT**

Scale Index = 4.096

ADAPTABILITY SKILL

GRAPH-5.8(6)
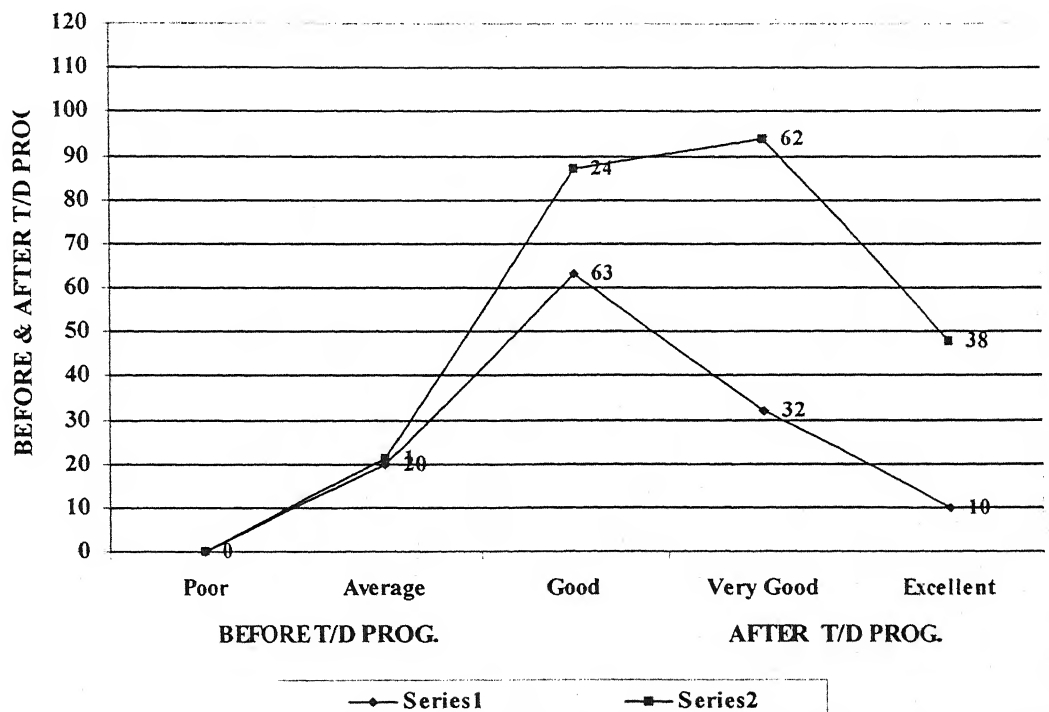
Table – 5.8 – (7A)

SKILL OF HANDLING SUBORDINATES BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	04	06	09	12	31
Good	04	31	10	10	65
Very good	06	13	04	03	26
Excellent	01	00	02	00	03
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 20.51137   **SIGNIFICANT**

Scale Index = 3.008

Table – 5.8 – (7B)

SKILL OF HANDLING AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	02	01	04
Good	04	05	08	09	26
Very good	12	30	07	10	59
Excellent	09	14	08	05	36
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 15.42870   **NOT SIGNIFICANT**

Scale Index = 4.016

SKILL OF HANDLING SUBOROINATES

GRAPH-5.8(7)

BEFORE & AFTER T/D PROG

120
110
100
90
80
70
60
50
40
30
20
10
0

Poor   Average   Good   Very Good   Excellent

BEFORE T/D PROG.   AFTER T/D PROG.

Data labels: 0, 26, 59, 36, 65, 31, 4, 26, 3

Legend: —♦— Series1   —■— Series2
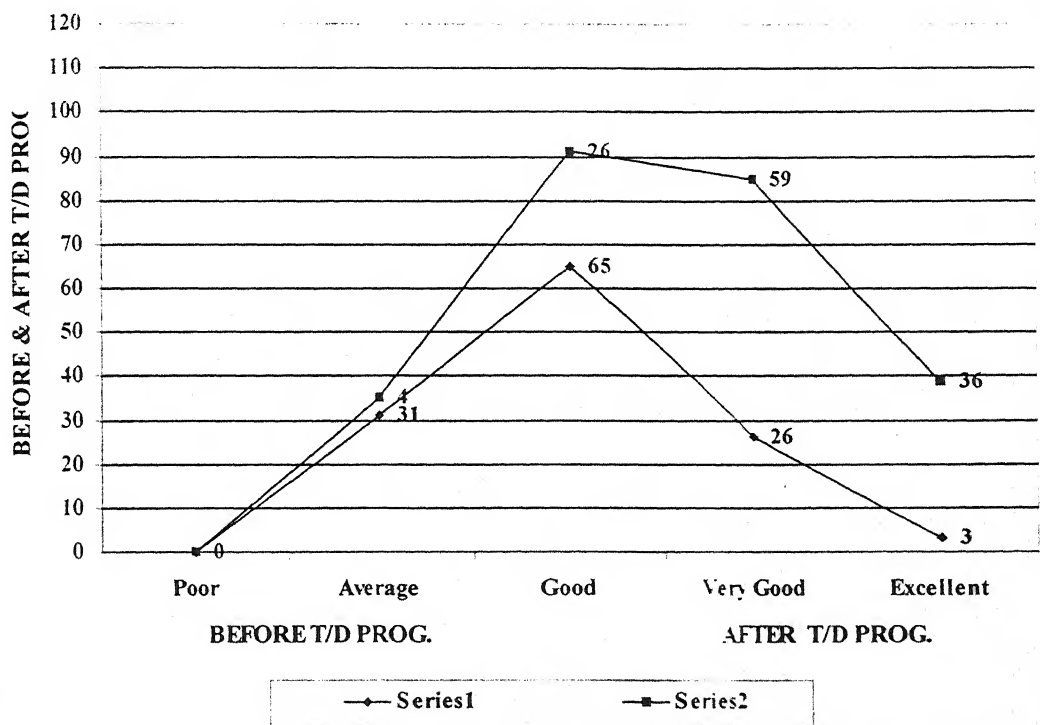
Table – 5.8 – (8A)

SKILL OF HANDLING GRIEVANCES BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	02	05	05	07	19
Good	10	32	15	11	68
Very good	10	11	04	06	31
Excellent	03	02	01	01	07
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 12.81687   **NOT SIGNIFICANT**

Scale Index = 3.208

Table – 5.8 – (8B)

SKILL OF HANDLING GRIEVANCES AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	01	02
Good	02	04	06	07	19
Very good	11	28	10	10	59
Excellent	12	17	09	07	45
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 11.20004   **NOT SIGNIFICANT**

Scale Index = 4.176

SKILL OF HANDLING GRIEVANCE

GRAPH-5.8(8)

Chart plotting BEFORE & AFTER T/D PROG. (y-axis 0 to 120) against categories Poor, Average, Good, Very Good, Excellent.

Series1: Poor 0, Average 19, Good 68, Very Good 31, Excellent 7

Series2: Poor 0, Average 19, Good 19 (87), Very Good 59 (90), Excellent 45 (52)

BEFORE T/D PROG.   AFTER T/D PROG.

Legend: Series1   Series2
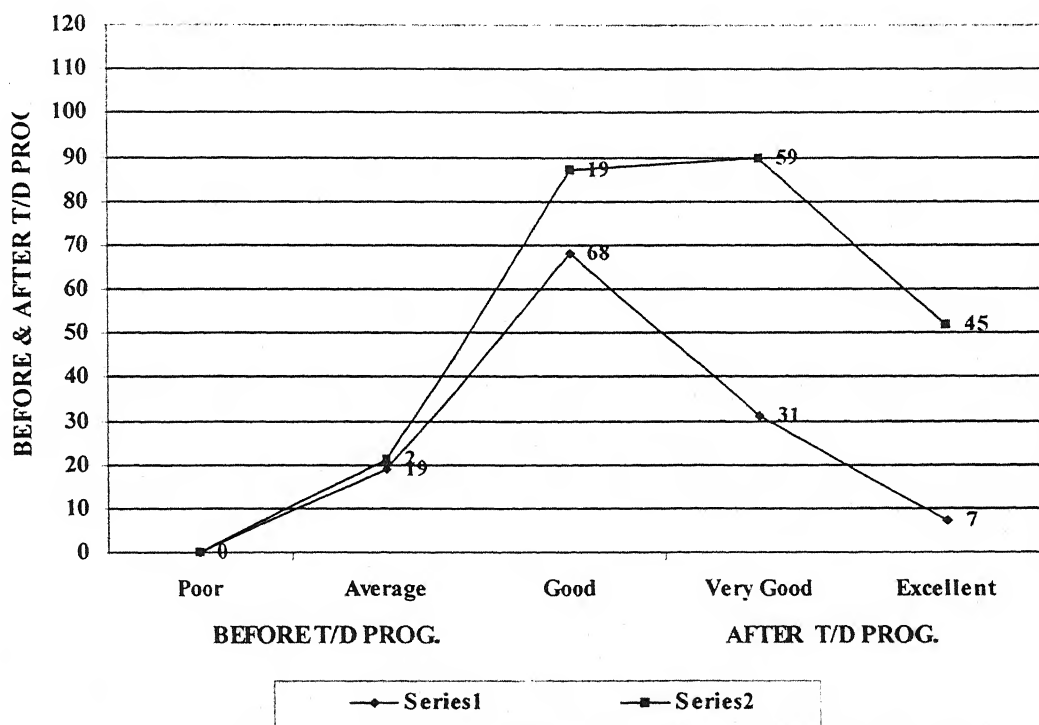
Table – 5.8 – (9A)

INITIATIVE BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	05	04	05	05	19
Good	15	28	12	15	70
Very good	04	17	08	04	33
Excellent	01	01	00	01	03
Total	25	50	25	25	125

D.F. = 09. Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 7.876837   **NOT SIGNIFICANT**

Scale Index = 3.

Table – 5.8 – (9B)

INITIATIVE AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	05	06	08	07	26
Very good	13	23	09	11	56
Excellent	07	20	08	07	42
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 7.336309   **NOT SIGNIFICANT**

Scale Index = 4.112

INITIATIVE SKILL

GRAPH-5.8(9)

Line graph titled "INITIATIVE SKILL" with y-axis labeled "BEFORE & AFTER T/D PROG" ranging from 0 to 120, and x-axis categories: Poor, Average, Good, Very Good, Excellent. Series1 values: 0, 19, 70, 33, 3. Series2 values: 0, 19, 26, 56, 42. Below x-axis: "BEFORE T/D PROG." and "AFTER T/D PROG." Legend: Series1, Series2.
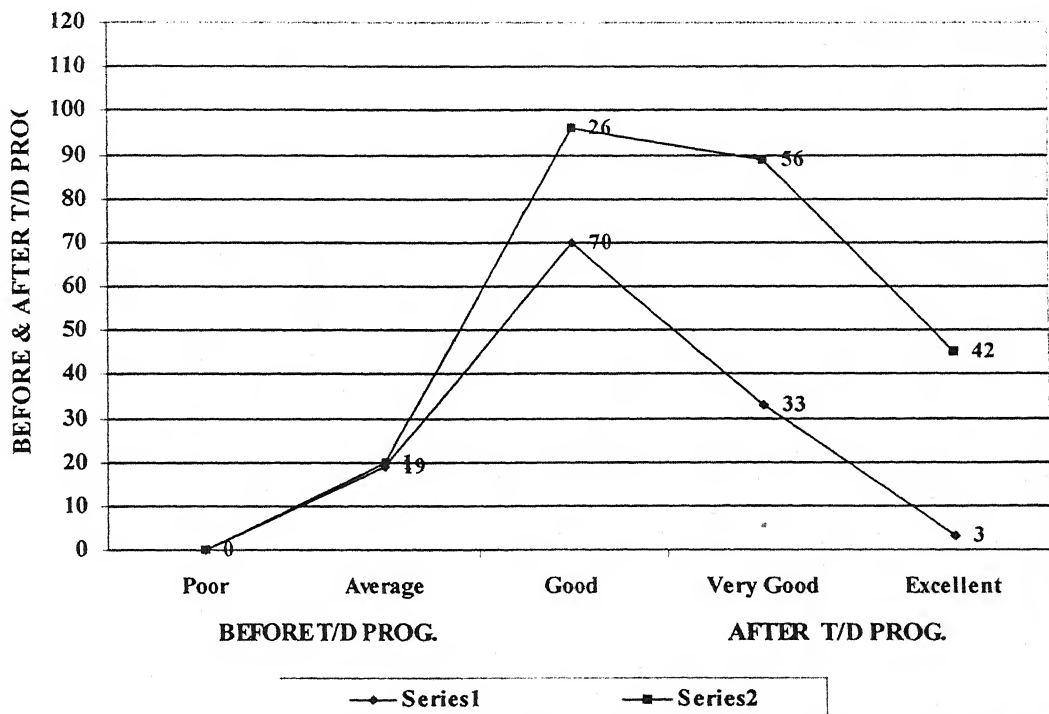
Table – 5.8 – (10A)

PLANNING BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	05	05	04	05	19
Good	15	24	14	15	68
Very good	04	18	07	04	33
Excellent	01	03	00	01	03
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 7.652547   **NOT SIGNIFICANT**

Scale Index = 3.192

Table – 5.8 – (10B)

PLANNING AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	04	09	07	05	25
Very good	14	21	07	14	56
Excellent	07	19	11	06	43
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 7.604360   **NOT SIGNIFICANT**

Scale Index = 4.128

PLANNING SKILL

GRAPH-5.8(10)

Line graph titled "PLANNING SKILL" with vertical axis labeled "BEFORE & AFTER T/D PROG" ranging from 0 to 120. Horizontal axis categories: Poor, Average, Good, Very Good, Excellent.

Series1 (diamond markers): Poor 0, Average 19, Good 68, Very Good 33, Excellent 5.
Series2 (square markers): Poor 0, Average 19, Good 25, Very Good 56, Excellent 43.

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
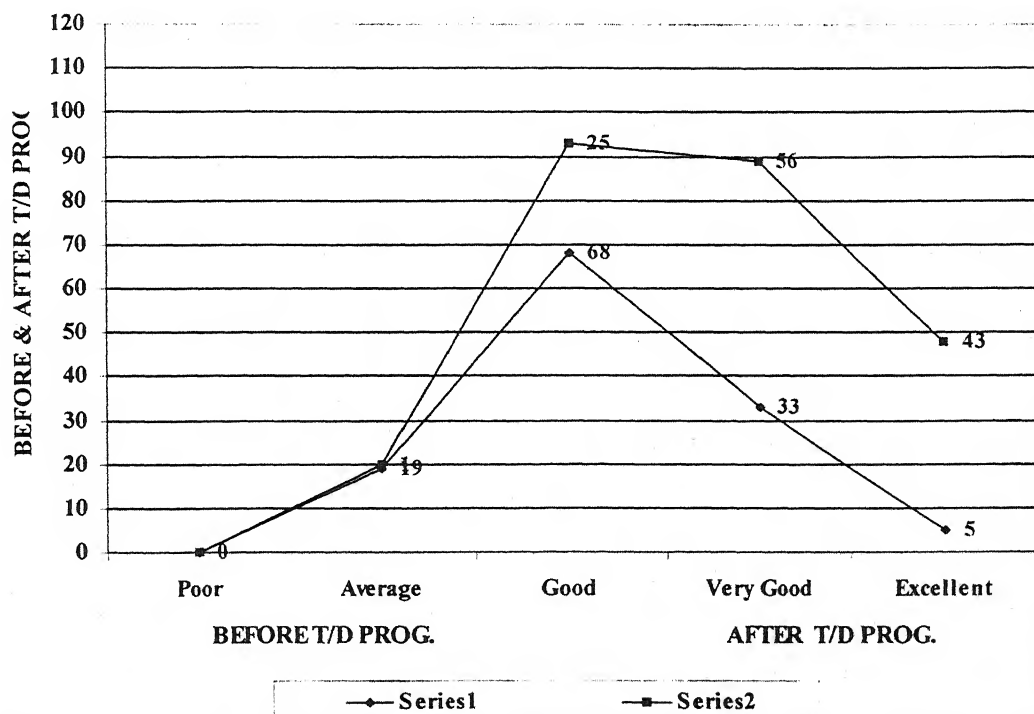
Table – 5.8 – (11A)

ORGANISING BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	05	04	02	02	13
Good	10	25	12	13	60
Very good	08	17	10	09	44
Excellent	02	04	01	01	08
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 4.238927   **NOT SIGNIFICANT**

Scale Index = 3.376

Table – 5.8 – (11B)

ORGANISING BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	04	08	06	05	23
Very good	09	20	07	09	45
Excellent	12	21	12	11	56
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 3.067675   **NOT SIGNIFICANT**

Scale Index = 4.248

ORGANISING SKILL

GRAPH-5.8(11)

Chart showing BEFORE & AFTER T/D PROG. (y-axis, scale 0 to 120) against categories Poor, Average, Good, Very Good, Excellent.

Series1: Poor 0, Average 13, Good 60, Very Good 44, Excellent 8

Series2: Good 23, Very Good 45, Excellent 56

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
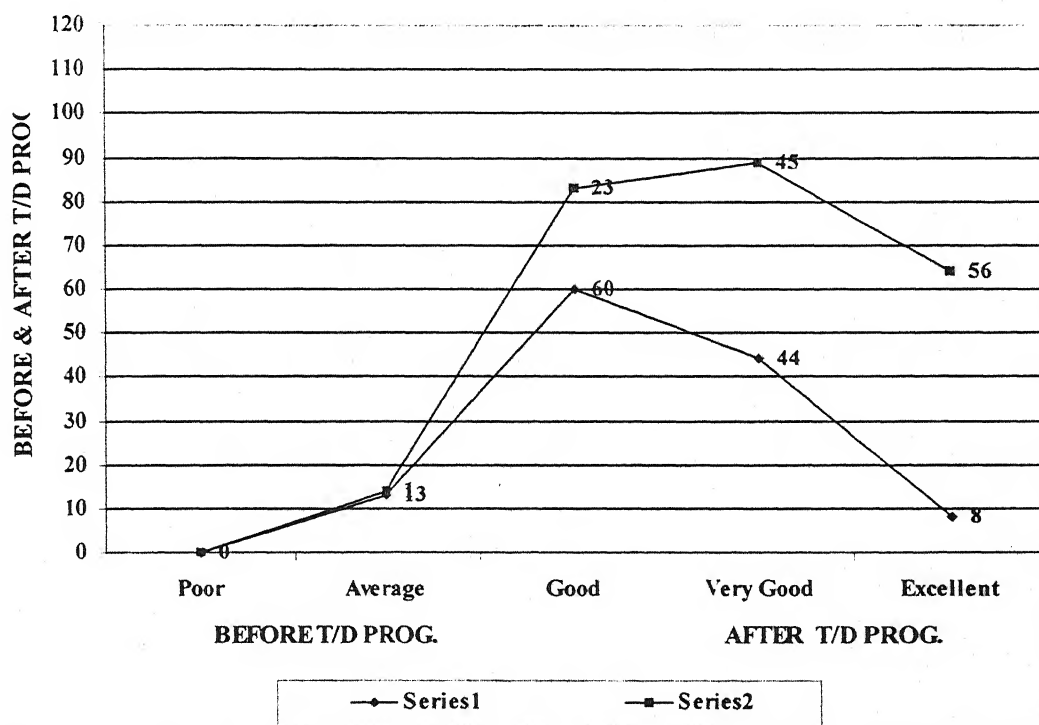
Table – 5.8 – (12A)

CONTROLLING BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	03	05	03	05	16
Good	09	27	08	12	56
Very good	10	17	12	07	46
Excellent	03	01	02	01	07
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 8.603454   **NOT SIGNIFICANT**

Scale Index = 3.352

Table – 5.8 – (12B)

CONTROLLING AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	00	01	00	01
Good	04	05	04	06	19
Very good	12	25	12	13	62
Excellent	09	20	08	06	43
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 7.5442987   **NOT SIGNIFICANT**

Scale Index = 4.176

CONTROLLING SKILL

GRAPH-5.8(12)
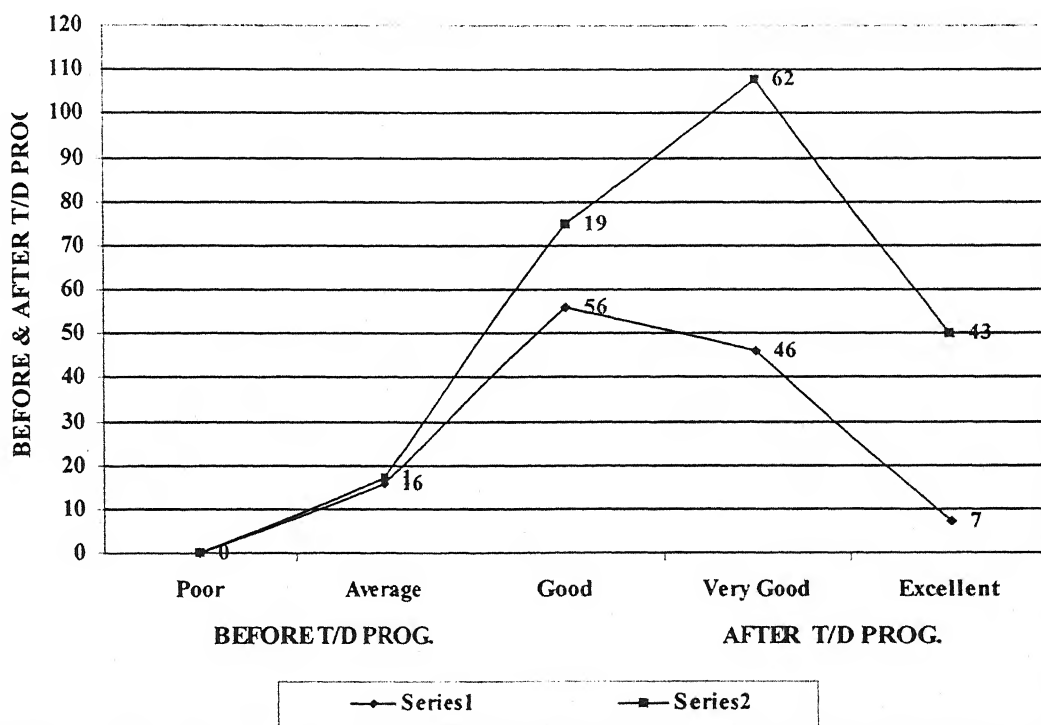
Table – 5.8 – (13A)

COORDINATING SKILL BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	02	06	03	05	16
Good	09	28	10	15	62
Very good	11	15	11	04	41
Excellent	03	01	01	01	06
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 11.62409   **NOT SIGNIFICANT**

Scale Index = 3.296

Table – 5.8 – (13B)

COORDINATING SKILL AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	02	04	04	05	15
Very good	10	25	10	14	29
Excellent	13	20	11	06	50
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 7.809039   **NOT SIGNIFICANT**

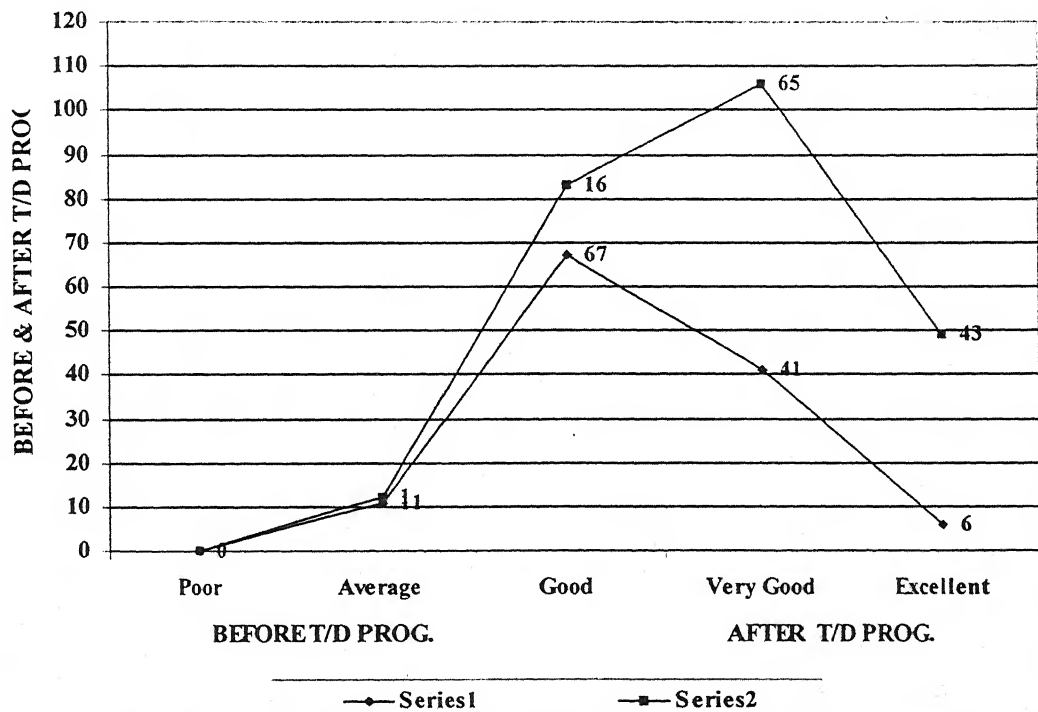Scale Index = 4.264

COORDINATING SKILL

GRAPH-5.8(13)

BEFORE & AFTER T/D PROG

- 120
- 110
- 100
- 90
- 80
- 70
- 60
- 50
- 40
- 30
- 20
- 10
- 0

Poor   Average   Good   Very Good   Excellent

BEFORE T/D PROG.   AFTER T/D PROG.

59 15 62 50 41 6 16 0

Series1   Series2
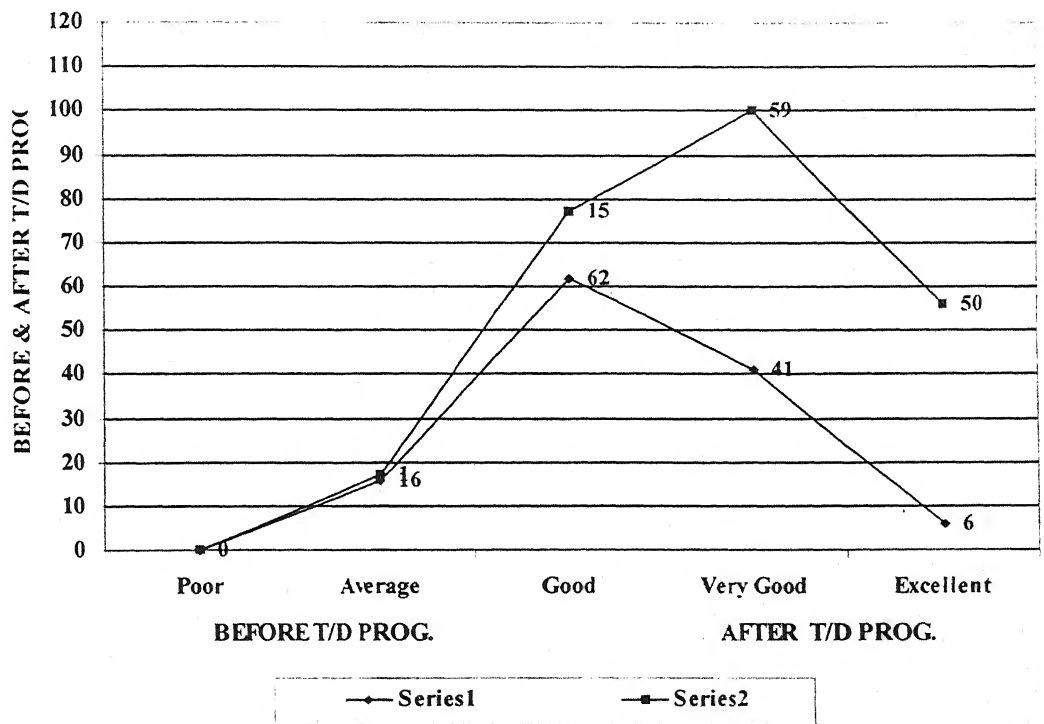
Table – 5.8 – (14A)

CREATIVITY BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	03	04	03	04	14
Good	12	30	10	12	64
Very good	09	15	11	08	43
Excellent	01	01	01	01	04
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 3.855377   **NOT SIGNIFICANT**

Scale Index = 3.296

Table – 5.8 – (14B)

CREATIVITY AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	03	05	03	04	15
Very good	12	24	10	11	57
Excellent	10	20	12	10	52
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 2.588394   **NOT SIGNIFICANT**

Scale Index = 4.28

CREATIVITY SKILL

GRAPH-5.8(14)

Chart: Creativity Skill — x-axis categories: Poor, Average, Good, Very Good, Excellent. Y-axis "BEFORE & AFTER T/D PROC" ranging 0–120.

BEFORE T/D PROG.   AFTER T/D PROG.

Series1 values: 0, 14, 64, 43, 4
Series2 values: 0, 15, 79, 57, 52

Legend: Series1, Series2
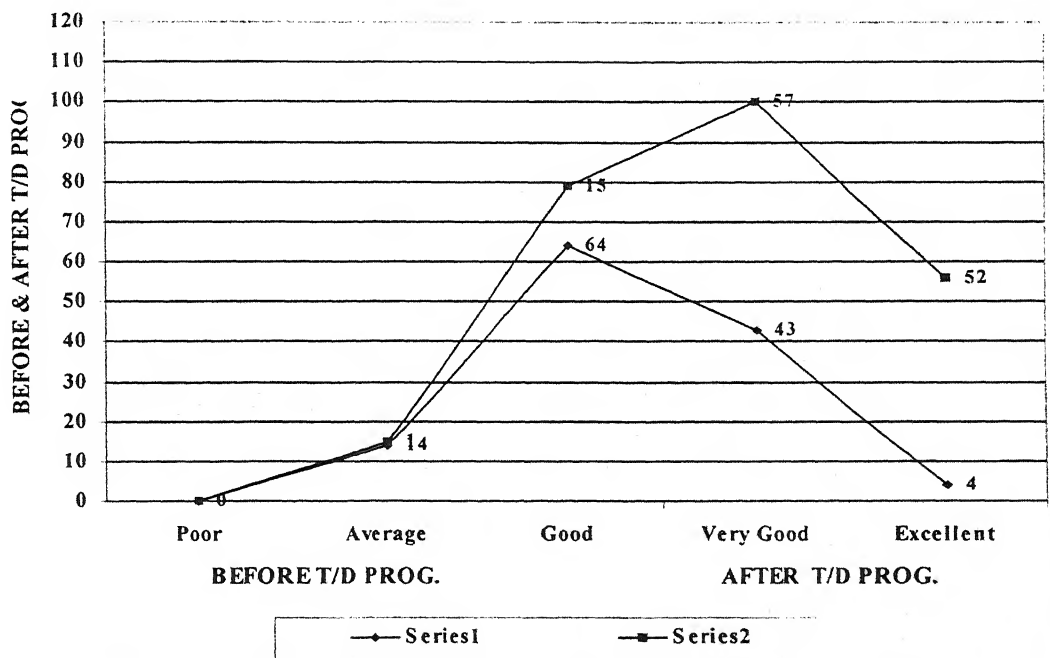
Table – 5.8 – (15A)

DELEGATION OF AUTHORITY BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	04	09	08	10	31
Good	10	09	12	13	67
Very good	10	32	05	02	26
Excellent	01	00	00	00	01
Total	25	50	25	25	125

D.F. = 09. Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 17.19052   **NOT SIGNIFICANT**

Scale Index = 2.976

Table – 5.8 – (15B)

DELEGATION OF AUTHORITY AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	02	01	02	05
Good	03	05	07	09	24
Very good	13	29	09	10	61
Excellent	09	14	08	04	35
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 13.71823   **NOT SIGNIFICANT**

Scale Index = 4.008

DELEGATION OF AUTHORITY SKILL

GRAPH-5.8(15)

Chart with y-axis labeled "BEFORE & AFTER T/D PROG" (0 to 120) and x-axis categories: Poor, Average, Good, Very Good, Excellent.

Series1: Poor 0, Average 31, Good 67, Very Good 26, Excellent 1
Series2: Average 5, Good 24, Very Good 61, Excellent 35

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
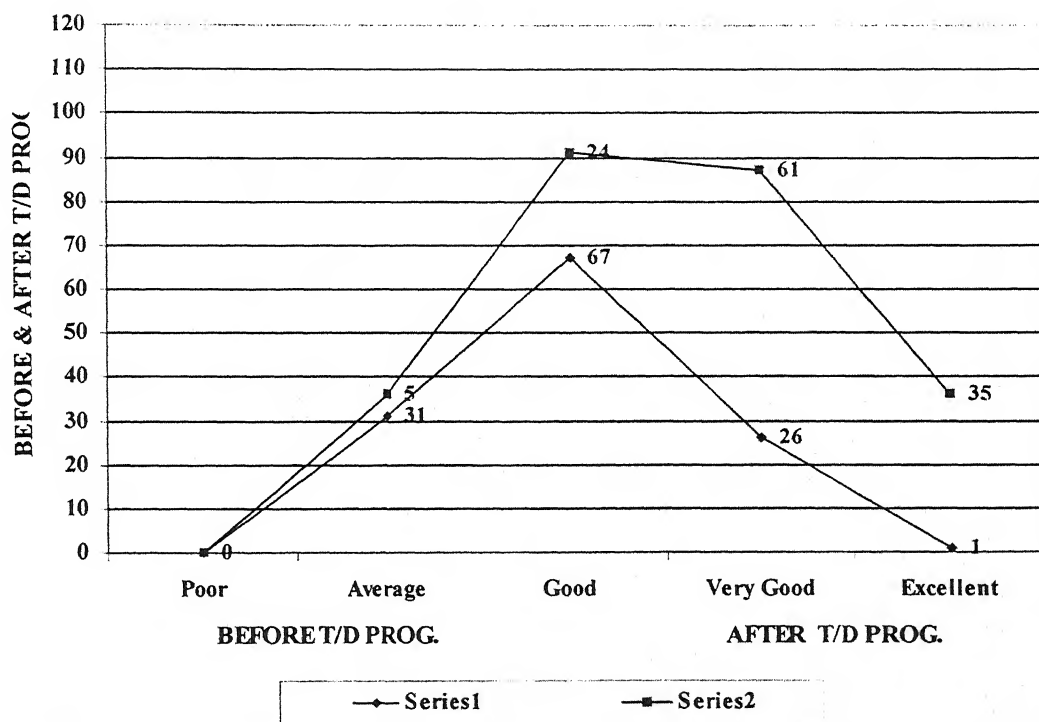
Table – 5.8 – (16A)

SKILL OF MAINTENANCE BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	01	09	07	12	29
Good	10	30	10	10	60
Very good	10	10	08	02	30
Excellent	04	01	00	01	06
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 28.84770   **NOT SIGNIFICANT**

Scale Index = 3.104

Table – 5.8 – (16B)

SKILL OF MAINTENANCE BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	01	03	05
Good	02	08	06	10	26
Very good	10	22	07	10	49
Excellent	13	19	11	02	45
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 21.40118   **NOT SIGNIFICANT**

Scale Index = 4.072

MAINTAINING SKILL

GRAPH-5.8(16)

A line graph titled "MAINTAINING SKILL" with y-axis labeled "BEFORE & AFTER T/D PROG" ranging from 0 to 120. X-axis categories: Poor, Average, Good, Very Good, Excellent.

Series1 values: Poor 0, Average 29, Good 60, Very Good 30, Excellent 6
Series2 values: Average 5(34), Good 26(86), Very Good 49(79), Excellent 45(51)

BEFORE T/D PROG.   AFTER T/D PROG.

◆ Series1   ■ Series2
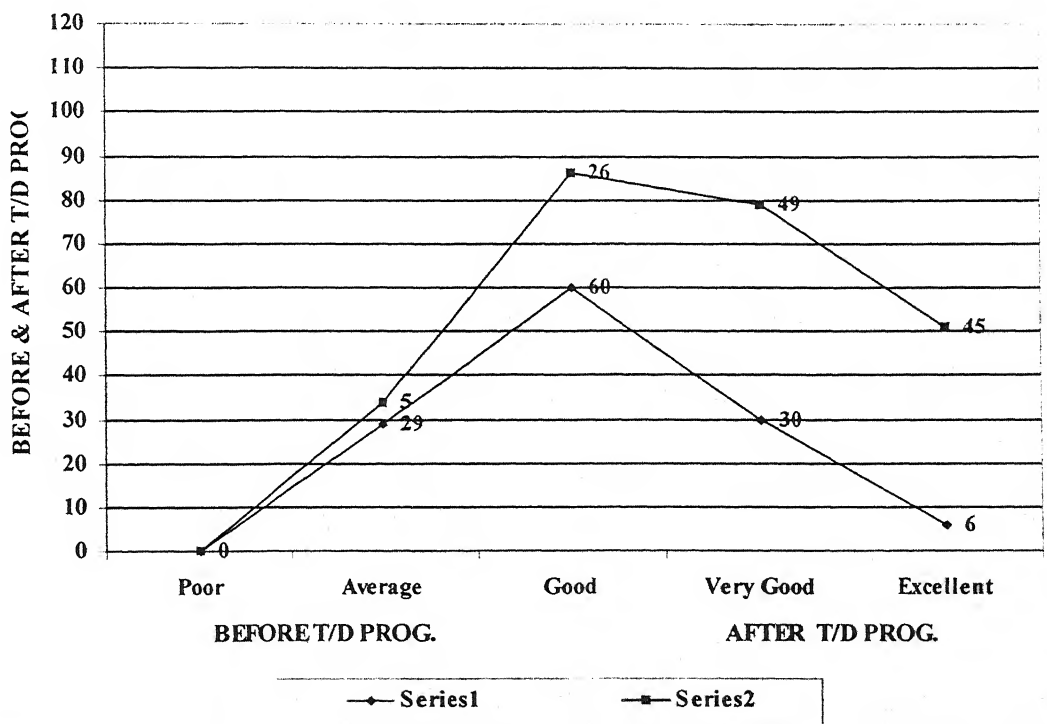
Table – 5.8 – (17A)

SKILL OF ACCELERATING BEFORE ATTENDING T/D

PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	01	04	09	10	24
Good	10	27	12	12	61
Very good	11	15	04	03	33
Excellent	03	04	00	00	07
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 27.57318   **NOT SIGNIFICANT**

Scale Index = 3.184

Table – 5.8 – (17B)

SKILL OF ACCELERATING AFTER ATTENDING T/D

PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	00	01	01	02
Good	02	03	06	08	19
Very good	10	25	08	10	53
Excellent	13	22	10	06	51
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 16.56687   **NOT SIGNIFICANT**

Scale Index = 4.224

ACCELERATING SKILL
GRAPH-5.8(17)

BEFORE & AFTER T/D PROG
BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
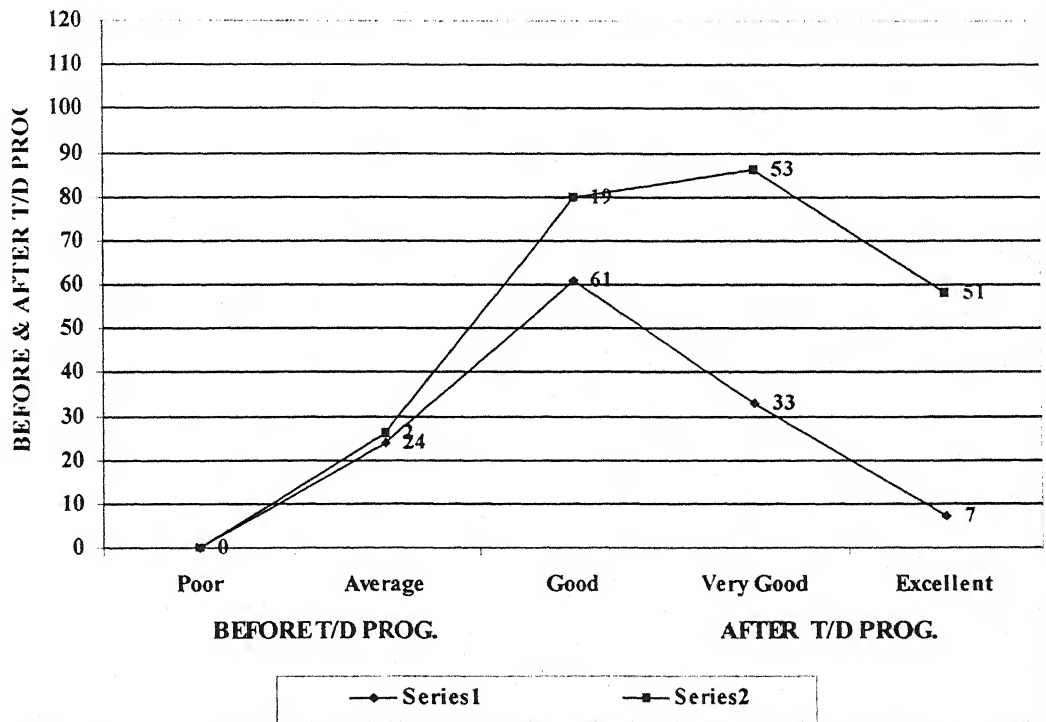
Table – 5.8 – (18A)

SKILL OF ALERTNESS BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	02	03	03	06	14
Good	08	26	12	13	59
Very good	10	18	10	05	43
Excellent	05	03	00	01	09
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 16.64480   **NOT SIGNIFICANT**

Scale Index = 3.376

Table – 5.8 – (18B)

SKILL OF ALERTNESS AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	01	00	00	01
Good	02	02	03	06	13
Very good	09	20	10	10	49
Excellent	14	27	12	09	62
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 9.543791   **NOT SIGNIFICANT**

Scale Index = 4.376

178

ALERTNESS SKILL

GRAPH-5.8(18)

Chart showing "BEFORE & AFTER T/D PROG" on the y-axis (0 to 120) versus categories Poor, Average, Good, Very Good, Excellent on the x-axis.

Series1 values: Poor 0, Average 14, Good 59, Very Good 43, Excellent 9

Series2 values: Good 13, Very Good 49, Excellent 62

BEFORE T/D PROG.   AFTER T/D PROG.

—◆— Series1   —■— Series2
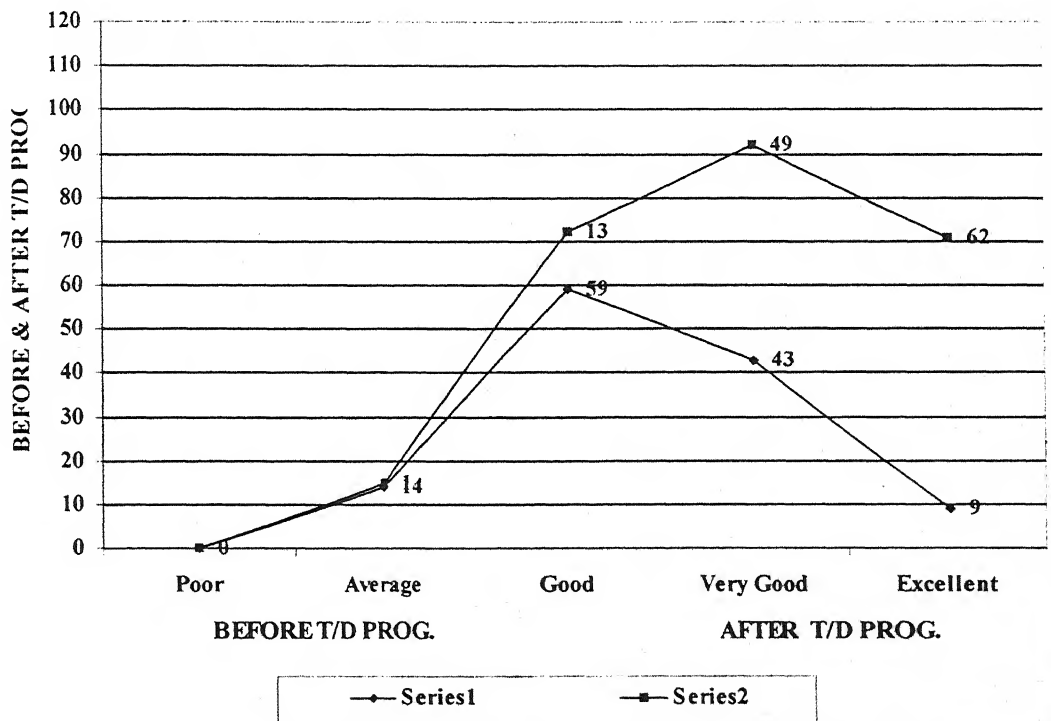
Table – 5.8 – (19A)

TECHNICAL COMPETENCE BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	04	01	05	04	14
Good	11	18	08	09	46
Very good	07	23	10	10	50
Excellent	03	08	02	02	15
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 9.740786   **NOT SIGNIFICANT**

Scale Index = 3.528

Table – 5.8 – (19B)

TECHNICAL COMPETENCE AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	00	00	01	01
Good	02	04	05	04	15
Very good	10	15	05	08	38
Excellent	13	31	15	12	71
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 6.643621   **NOT SIGNIFICANT**

Scale Index = 4.448

TECHNICAL COMPETENCE

GRAPH-5.8(19)

BEFORE & AFTER T/D PROG

| | Poor | Average | Good | Very Good | Excellent |

- 0
- 14
- 46
- 50
- 15
- 15
- 38
- 71

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
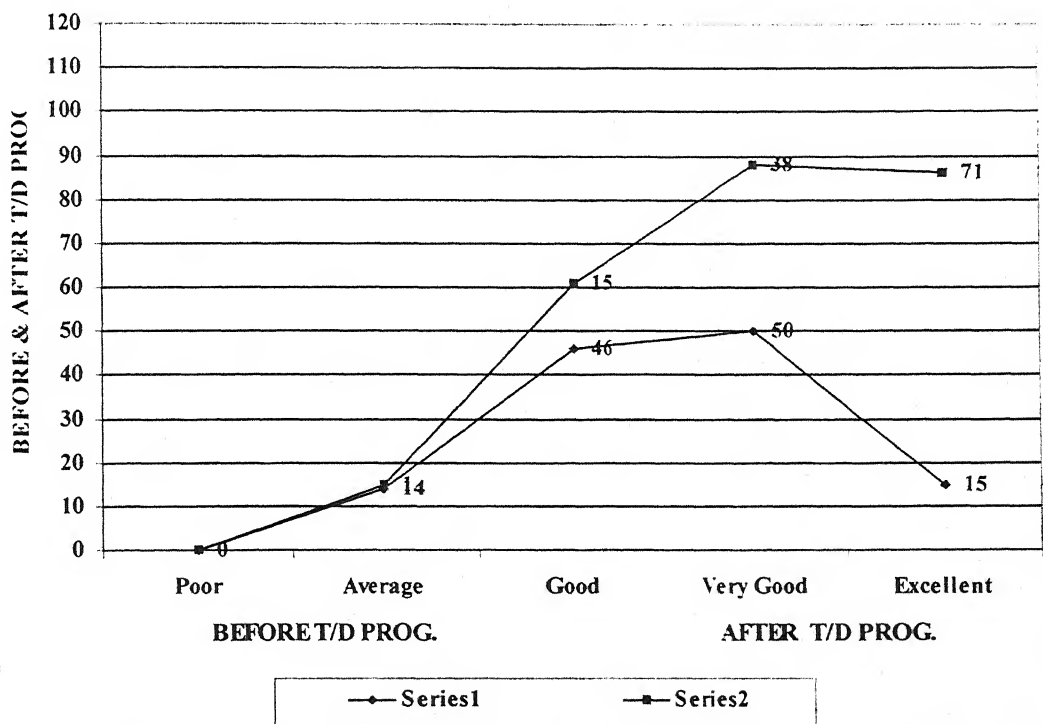
Table – 5.8 – (20A)

MOTIVATION BEFORE ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	03	01	06	08	18
Good	08	22	10	12	52
Very good	08	23	08	04	43
Excellent	06	04	01	01	12
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 24.96794   **NOT SIGNIFICANT**

Scale Index = 3.392

Table – 5.8 – (20B)

MOTIVATION AFTER ATTENDING T/D PROGRAMME (S)

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Poor	00	00	00	00	00
Average	00	00	01	00	01
Good	03	01	05	04	13
Very good	07	20	06	12	45
Excellent	15	29	13	09	66
Total	25	50	25	25	125

D.F. = 09, Table Value at (0.05) = 16.92

Computed value of CHI SQUARE – 14.93065   **NOT SIGNIFICANT**

Scale Index = 4.408

MOTIVATION SKILL

GRAPH-5.8(20)

Chart showing BEFORE & AFTER T/D PROG. on the Y-axis (0 to 120) with categories Poor, Average, Good, Very Good, Excellent on the X-axis.

Series1 values: Poor 0, Average 18, Good 52, Very Good 43, Excellent 12

Series2 values: Poor 0, Average 18, Good 13 (65), Very Good 45 (88), Excellent 66 (78)

BEFORE T/D PROG.   AFTER T/D PROG.

Series1   Series2
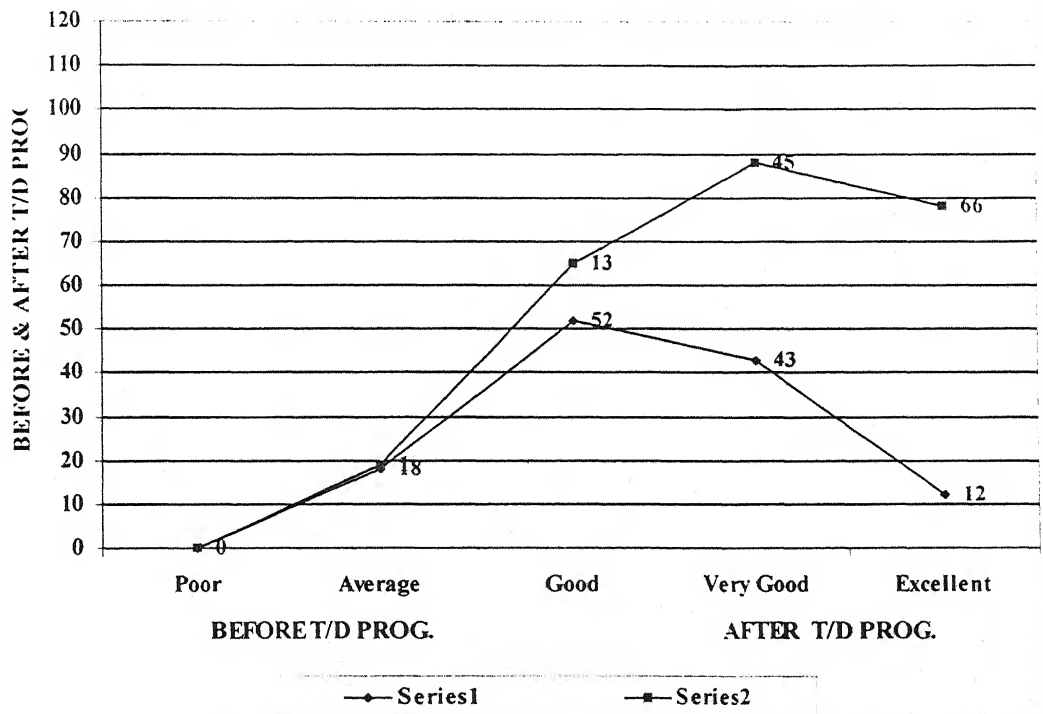
Table – 5.15 (1)
PARTICIPATION IN DESIGNING TRAINING AND DEVELOPMENT PROGRAMMS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	03	02	01	07
To a considerable extent	07	08	03	03	21
To some extent	07	10	10	07	34
To a little extent	05	12	05	10	32
Not at all	05	17	05	04	31
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 11.18112 **NOT SIGNIFICANT**

Scale Index = 3.472

TOP MGT. PARTICIPATION IN DESIGNING T&D
GHAPH-5.15(1)
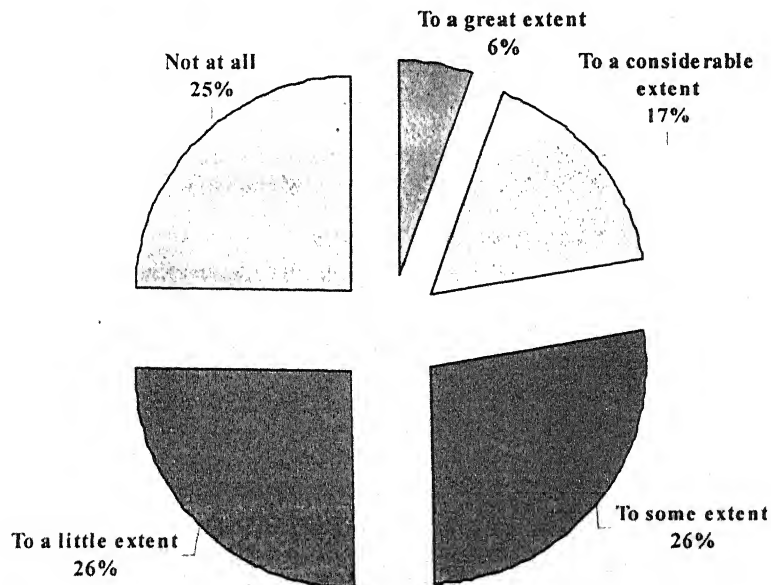
Table – 5.15 (2)
PARTICIPATION IN INAUGURATION, VALEDICTION, ETC

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	04	17	03	06	30
To a considerable extent	10	14	07	08	39
To some extent	05	09	09	09	32
To a little extent	03	06	03	01	13
Not at all	03	04	03	01	11
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 11.17216   **NOT SIGNIFICANT**

Scale Index = 2.488

TOP MGT. PARTICIPATION IN INAUGURATION T&D
GHAPH-5.15(2)

185
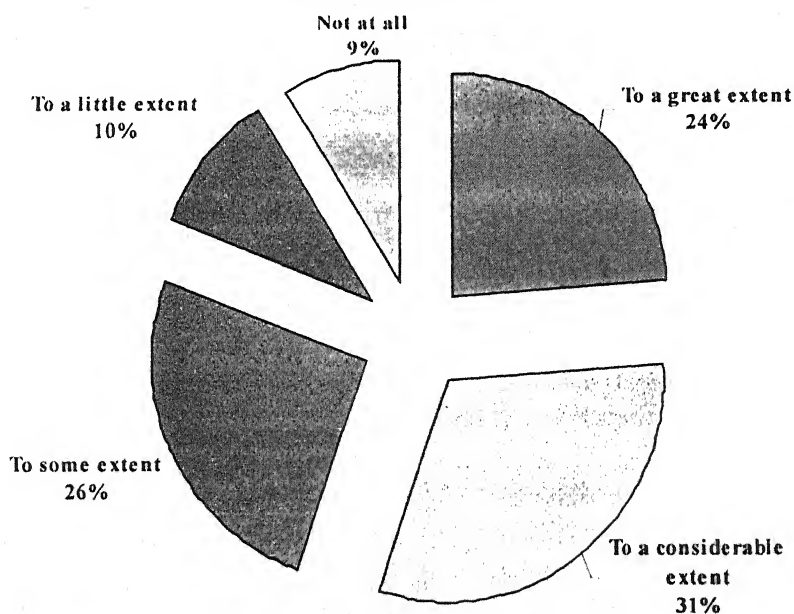
Table – 5.15 (3)
PARTICIPATION IN THE SELECTION OF THE FACULTY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	02	06	01	02	11
To a considerable extent	09	10	07	06	32
To some extent	05	14	10	08	37
To a little extent	02	12	04	07	25
Not at all	07	08	03	02	20
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 11.50651   **NOT SIGNIFICANT**

Scale Index = 3.088

TOP MGT. PARTICIP. INFACULTY SELECTION
GHAPH-5.15(3)
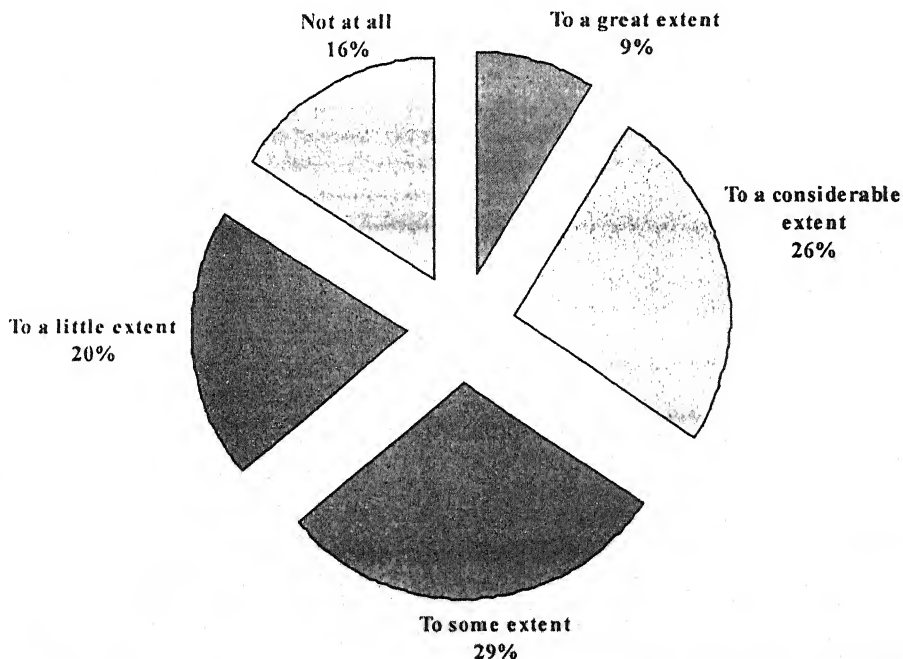
Table – 5.15 (4)
MANAGEMENT AND CONTROL OF PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	00	03	01	01	05
To a considerable extent	05	09	06	03	23
To some extent	04	11	10	05	30
To a little extent	06	14	05	11	36
Not at all	10	13	03	05	31
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 13.23589   **NOT SIGNIFICANT**

Scale Index = 3.52

TOP MGT. SUPPORT IN MGT. & CONTROL
GHAPH-5.15(4)

Table – 5.15 (5)

EVALUATION OF TRAININGAND DEVELOPMENT PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	02	01	01	05
To a considerable extent	08	08	10	04	30
To some extent	06	9	8	05	28
To a little extent	05	14	04	10	33
Not at all	05	17	02	05	29
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 15.32316   **NOT SIGNIFICANT**

Scale Index = 3.408

TOP MGT. SUPPORT IN EVALUATION PROG.
GHAPH-5.15(5)

Not at all 23%
To a great extent 4%
To a considerable extent 24%
To a little extent 27%
To some extent 22%

Table – 5.15 (5)
EVALUATION OF TRAININGAND DEVELOPMENT PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	02	01	01	05
To a considerable extent	08	08	10	04	30
To some extent	06	9	8	05	28
To a little extent	05	14	04	10	33
Not at all	05	17	02	05	29
Total	**25**	**50**	**25**	**25**	**125**

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 15.32316 **NOT SIGNIFICANT**

Scale Index = 3.408

TOP MGT. SUPPORT IN EVALUATION PROG.
GHAPH-5.15(5)

To a great extent 4%

Not at all 23%

To a considerable extent 24%

To a little extent 27%

To some extent 22%

Table – 5.15 (6)

PARTICIPATION AS FACULTY FOR THE T AND D PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	03	02	01	07
To a considerable extent	05	08	05	03	21
To some extent	08	10	10	05	33
To a little extent	07	13	05	10	35
Not at all	04	16	03	06	29
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 9.893566   **NOT SIGNIFICANT**
Scale Index = 3.464

TOP MGT. PARTICIPATION AS FACULTY
GHAPH-5.15(6)

To a great extent 6%
To a considerable extent 17%
Not at all 23%
To some extent 26%
To a little extent 28%
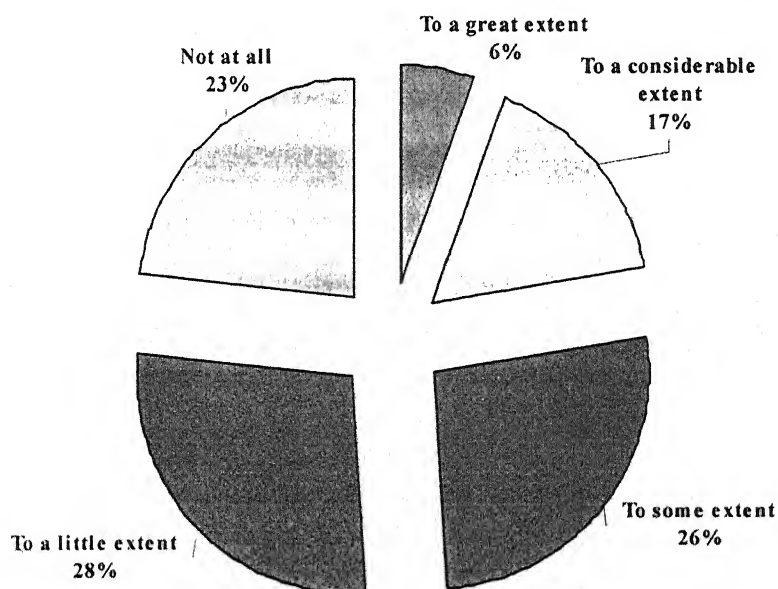
Table – 5.15 (7)
GENERAL GUIDELINES AND SUPPORT FOR T AND D PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	07	03	03	14
To a considerable extent	09	16	04	05	34
To some extent	10	17	10	09	46
To a little extent	03	09	06	07	25
Not at all	02	01	02	01	06
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 8.367086   **NOT SIGNIFICANT**

Scale Index = 2.8

GENERAL GUIDANCE & SUPPORT OF TOP MGT.
GHAPH-5.15(7)

Not at all 5%

To a great extent 11%

To a considerable extent 27%

To a little extent 20%

To some extent 37%

190
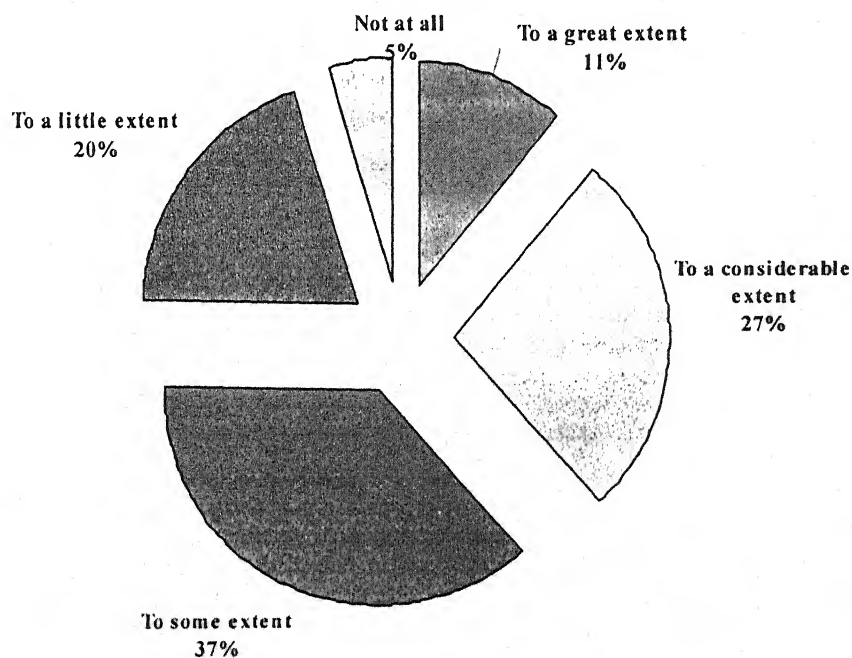
Table – 5.15 (8)
IDENTIFICATION OF INDIVIDUAL DEVELOPMENT NEEDS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	02	04	02	02	10
To a considerable extent	07	09	05	04	25
To some extent	08	10	08	07	33
To a little extent	05	12	04	05	26
Not at all	03	15	06	07	31
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 5.338852   **NOT SIGNIFICANT**

Scale Index = 3.344

INENTIFICATION OF INDIVIDUAL DEV. NEEDS
GHAPH-5.15(8)

Not at all
25%

To a great extent
8%

To a considerable
extent
20%

To a little extent
21%
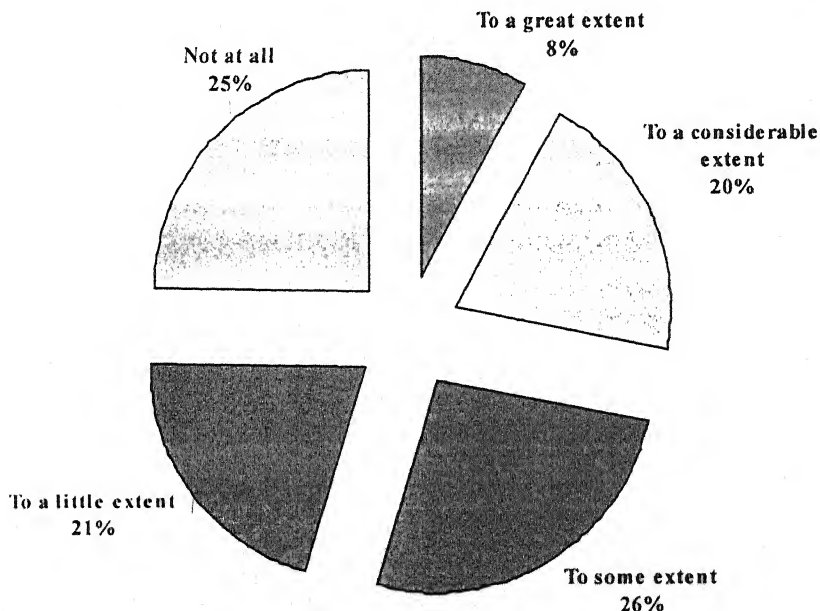
To some extent
26%

Table – 5.15 (9)

FOLLOW-UP TRAINED AND DEVELOPMENT HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	03	04	02	10
To a considerable extent	09	08	03	03	23
To some extent	07	09	10	05	31
To a little extent	07	13	05	06	31
Not at all	01	17	03	09	30
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 21.44600   **NOT SIGNIFICANT**

Scale Index = 3.384

FOLLOW-UP OF TRANIED & DEVELOPED HR
GHAPH-5.15(9)
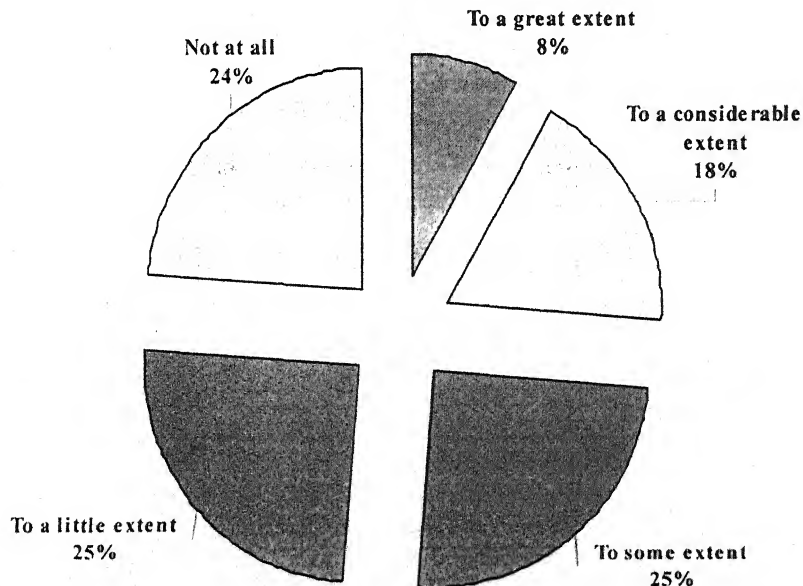
Table – 5.15 (10)
UTILISATION OF TRAINED AND DEVELOPMENT HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	04	02	01	08
To a considerable extent	09	07	06	03	25
To some extent	07	08	10	05	30
To a little extent	07	14	06	07	34
Not at all	01	17	01	09	28
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 22.92598   **NOT SIGNIFICANT**

Scale Index = 3.392

UTTILISATION OF TRANIED & DEVELOPED HR
GHAPH-5.15(10)

Not at all 22%

To a great extent 6%

To a considerable extent 20%

To a little extent 28%
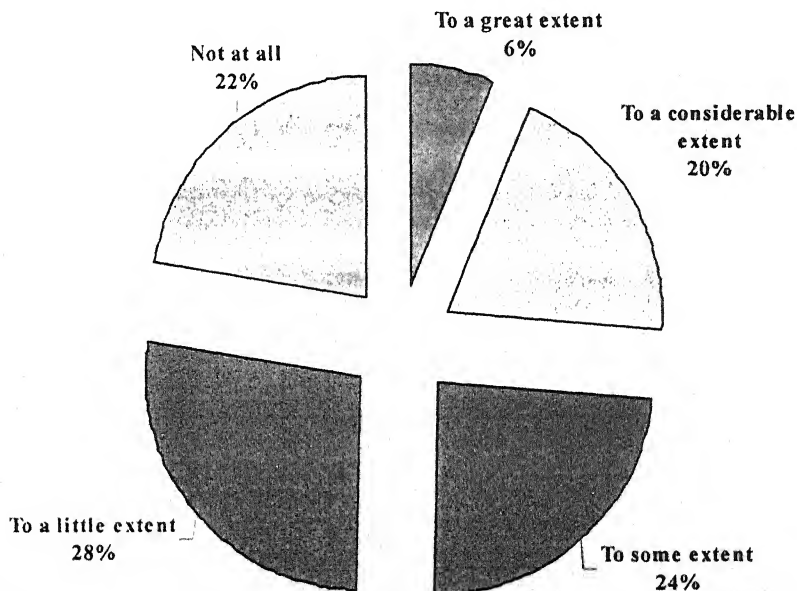
To some extent 24%

Table – 5.15 (11)
REVIEW OF PERFORMANCE OF THE TRAINING AND DEVELOPMENT PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	05	02	02	10
To a considerable extent	04	08	04	04	20
To some extent	08	11	06	05	30
To a little extent	07	13	08	06	34
Not at all	05	13	05	08	31
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 3.021030   **NOT SIGNIFICANT**
Scale Index = 3.488

REVIEW OF PERFORMANCE BY TOP MANGEMENT
GHAPH-5.15(11)

Not at all 25%

To a great extent 8%

To a considerable extent 16%

To some extent 24%

To a little extent 27%
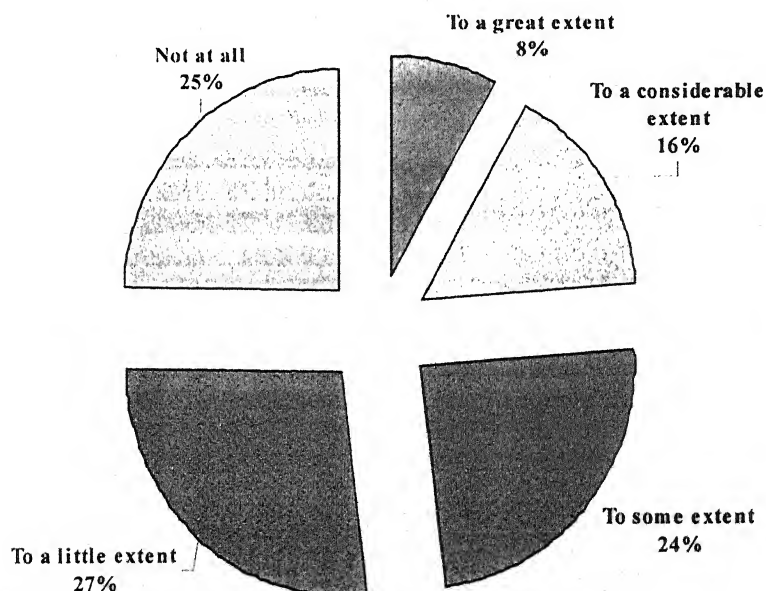
Table – 5.15 (12)

PARTICIPATION OF CAREER DEVELOPMENT PROGRAMMES

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
To a great extent	01	00	00	00	01
To a considerable extent	06	05	07	03	21
To some extent	03	08	04	05	20
To a little extent	08	20	08	08	44
Not at all	07	17	06	09	39
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 10.21028   **NOT SIGNIFICANT**

Scale Index = 3.792

PREPARATION OF CAREER DEVELOPMENT PROG.
GHAPH-5.15(12)

To a great extent 1%

To a considerable extent 17%

To some extent 16%

To a little extent 35%

Not at all 31%
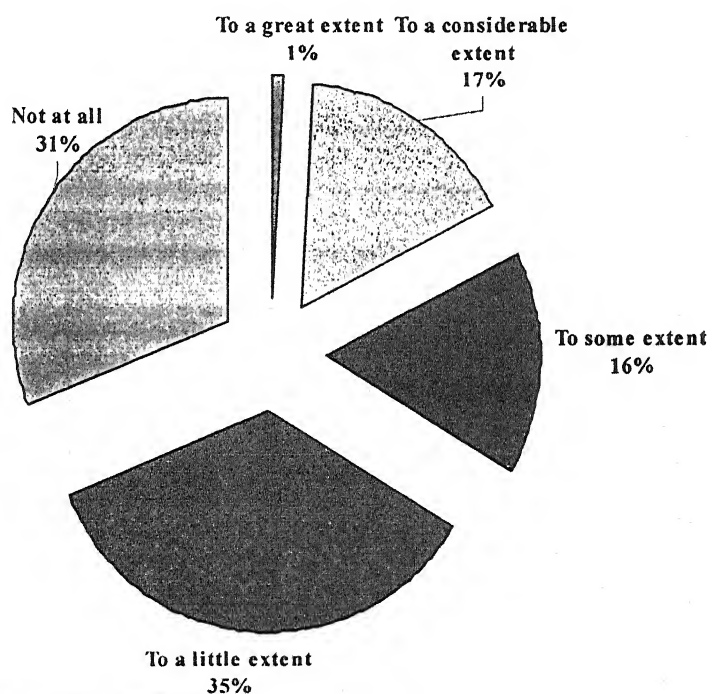
CHAPTER-VI

HUMAN RESOURCES RETENTION:

- *Analysis of the intention, retention of human resources of the organizations for a long period and the perception of the human resources in this regard.*
- *Analysis of the satisfaction level of human resources with the efforts of the organization to retain them.*

CHAPTER VI
HUMAN RESOURCE RETENTION

This chapter deals with the different aspects of retention of human resource in the organisation broadly classified under two heads namely.

I.   Organisational efforts to retain human resource.

II.   Degree of satisfaction of human resource.

Part –IV of the questionnaire deals with the former classification and Part-V deals with the latter. The results generated through Part IV and V of the questionnaire have been analysed in this chapter. Thirty statement in Part-IV and thirty one in Part-V, were asked from the respondents. The respondents were asked (both in Part-IV and V) to tick mark the appropriate number ranging from 1 to 5 on a five point viz.

1. Strongly agree

2. Moderately agree

3. Agree

4. Moderately disagree

5. Strongly disagree

The sample classification and the statistical technique used has been explained in chapter one which is applicable for this chapter also.

I.   ORGANSISATIONAL EFFORTS TO RETAIN HUMAN RESOURCE

The orgainsation incurs various costs on human resource during is/her working tenure in the organisation and even assures an employee of being looked after retirement in the form of retirement benefits. This part analyses the intentions of incurring such costs on human resource which are

summariesd in Table 6.62. It contains the summary of chi-square and scale index values of thirty tables numbering table 6.1 to 6.30.

It is important to note that no chi-square value is significant in Table 6.62 which means the perceptions of the respondents of different sectors does not differ significantly.

1. The respondents have a fairly strong perception (scale index 1.91) that the organisation at the time of acquiring human resources in tends to acquire those who are likely to remain in the organisation for a longer period of time (Table 6.1)

2. Table 6.2 shows that there is a favourable opinion (scale index 2.5) on the statement that the organisation intends to deploy human resources in such a way that it is possible to retain maximum possible human resource hired.

3. The organisation intends to retain existing human resource having positive human resource value upto the age of retirement is the strong view of the respondents which is evident from the scale index of 1.8 shown in Table 6.3.

TABLE – 4.1
SUMMARY TABLE REGARDING
HUMAN RESOURCE COST AND VALUE

T. No.	Particulars of Questions Asked	Chi-square	Scale Index
1.	Intention of retention while acquiring HR		
2.	Intends to retain while deploying HR	13.13879	2.496
3.	Intends to retain positive value HR	9.201515	1.808
4.	Intends to retain HR by development of HR	4.853937	2.32
5.	Intends to retain HR by Hi-Tech Updation		
6.	Organisation develops HR to be cost effective	2.441077	2.528
7.	Updation Training for cost efficiency	5.917076	2.896
8.	Intends to retain HR by providing House	12.14673	2.448
9.	Intends to retain HR by Transport facility	10.29025	2.88
10.	Intends to retain HR by medical facility	3.946158	2.744
11.	Intends to retain by providing LTC facility	11.97193	2.736
12.	Intends to retain HR by pollution control	4.606307	3.344
13.	Intends to retain HR by safety measure	8.875167	3.392
14.	Intends to retain HR by canteen facility	18.52051	3.216
15.	Intends to retain HR by recreation facility	18.24624	3.456
16.	Intends to retain HR by developing township	10.79067	2.368
17.	Housing to HR for ensuring availability	4.636074	2.68
18.	Transport facility to HR for punctuality	11.61753	2.704
19.	Medical facility for optimum utilisation of HR	4.68822	2.784
20.	LTC keeps HR fresh for Hard work	6.474221	2.784
21.	Pollution control to ensure HR health	8.638861	2.888
22.	Safety measures to avoid trouble in the org.	7.062834	2.704
23.	Recreation facility to keep HR fit	6.776124	2.608
24.	Canteen to keep HR inside during Lunch	6.469651	3.288
25.	Bound to development township in remote areas	4.814186	2.376
26	Intends to retain HR by retirement benefits	6.221861	2.072
27.	Pre-mature relirement not meant for useful HR	11.45633	2.128
28.	HR sticks in on org. where satisfied	1.597222	2.232
29.	HR prefers to retire from good Organisation		1.888
30	Retirement benefits to satisfy law	4.599099	3.488
Total of Scale index			79.768
Combined Scale Index			2.658933

Not :   1. Table given above represents data for 125 respondents.

2. No significant value of Chi-Square in the above Table.

Table – 6.1

INTENTION OF RETENTION WHILE ACQUIRING HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	07	23	11	12	53
Moderately Agree	9	15	10	09	43
Agree	07	09	02	02	20
Moderately Disagree	01	02	01	01	05
Strongly Disagree	01	01	01	01	04
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 6.871983   **NOT SIGNIFICANT**

Scale Index = 1.912

INTENTION OF RETENTION WHILE AQUIRING
GHAPH-6.1
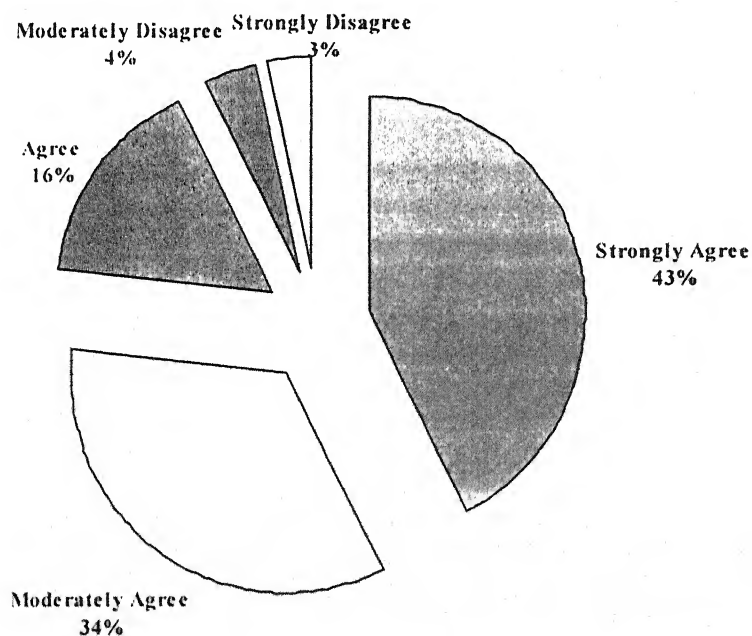
Table – 6.2
INTENTION OF RETENTION WHILE DEPLOYING HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	05	13	03	07	28
Moderately Agree	10	11	14	08	43
Agree	06	12	05	06	29
Moderately Disagree	03	06	02	03	14
Strongly Disagree	01	08	01	01	11
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 13.13879   **NOT SIGNIFICANT**
Scale Index = 2.496

INILNDS TO REIAIN WHILE DEPLOYING
GHAPH-6.2

Strongly Disagree -11
9%

Strongly Agree -28
22%

Moderately Disagree -14
11%

Agree -29
23%

Moderately Agree -43
35%
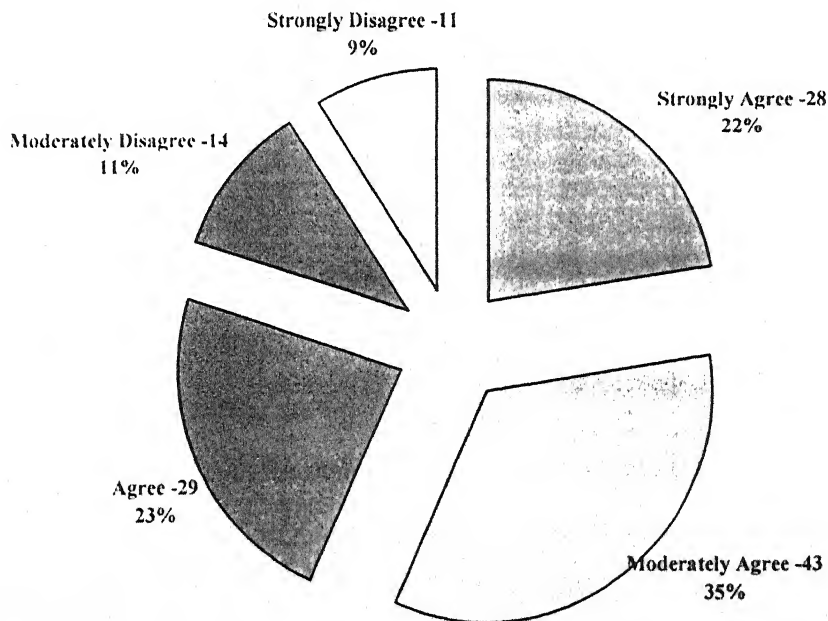
Table – 6.3

INTENTION OF RETENTION POSITIVE VALUE HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	10	23	09	12	54
Moderately Agree	09	16	10	09	44
Agree	05	11	05	04	25
Moderately Disagree	00	00	00	01	01
Strongly Disagree	00	00	01	00	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 9.201515   **NOT SIGNIFICANT**
Scale Index = 1.808

INILNDS TO REIAIN +IVE VALUE HR
GHAPH-6.3

Moderately Disagree 1%
Strongly Disagree 1%
Agree 20%
Strongly Agree 43%
Moderately Agree 35%
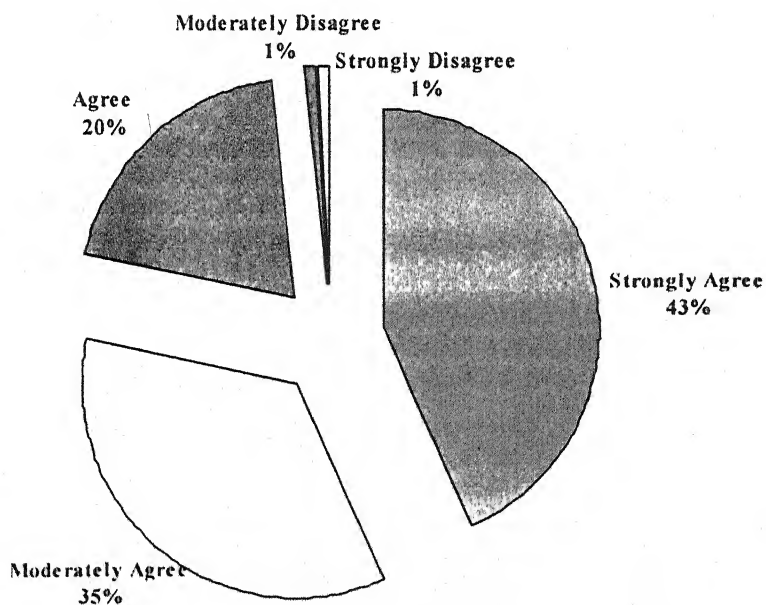
4. Table 6.4 reveals that the respondents moderately agree (scale index 2.32) that the provides opportunity for development of human resource with the objective of retaining them. The respondents also agree to some extent (Scale index 2.53) that the organisation development human resource to fulfill the fulfill the future needs of the organisation at relatively lesser cost (Table 6.6). The lesser cost referred here assumes that the cost development and retaining existing human resource is less as compared to the cost of acquiring and retaining development human resource from outside the organisation. The comparison of the two scale indexes shows that retention of human resource is the primary concern and the other one is secondary.

5. The respondents agree to some extent (scale index 2.6) that the organisation provides opportunity for technological updation in order to retain the existing human resource (Table 6.5). Table 6.7 with scale index of 2.9 indicates that the respondents also agree that the organization provides updation training to human resource to fulfil the needs of the organisation at a relatively lesser cost. The term lesser cost assumes that if technologically uptated human resource is acquired form outside the organisation and retained in the organisation them it is generally costlier as compared to existing human resource with updation training. The comparison of scale indexes of the two tables again favour that the primary concern of the organisation is to retain the human resources.

Table – 6.4
INTENTION OF RETENTION HUMAN RESOURCE BY DEVELOPMENT THEM

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	07	18	04	06	35
Moderately Agree	07	14	10	08	39
Agree	07	10	08	07	32
Moderately Disagree	03	06	02	03	14
Strongly Disagree	01	02	01	01	05
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 4.853937   **NOT SIGNIFICANT**
Scale Index = 2.32

INTENDS TO REIAIN BY DEVELOPMENT
GHAPH-6.4

Strongly Disagree 4%
Moderately Disagree 11%
Strongly Agree 28%
Agree 26%
Moderately Agree 31%

Table – 6.5

INTENTION OF RETENTION HUMAN RESOURCE
BY TECHNOLOGICAL UPDATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	09	05	06	24
Moderately Agree	07	18	09	08	42
Agree	08	11	06	04	29
Moderately Disagree	04	08	03	05	20
Strongly Disagree	02	04	02	02	10
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 2.791153   **NOT SIGNIFICANT**
Scale Index = 2.6

INTENDS TO REIAIN BY HI-TECH UPDATION
GHAPH-6.5

Strongly Disagree 8%
Strongly Agree 19%
Moderately Disagree 16%
Moderately Agree 34%
Agree 23%
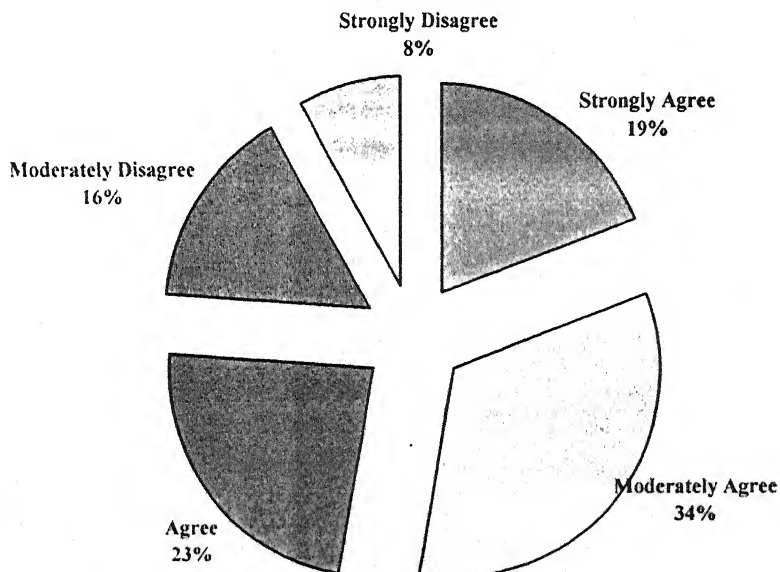
Table – 6.6

ORGANISATION DEVELOPS HUMAN RESOURCE
TO BE COST EFFECTIVE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	05	12	04	06	27
Moderately Agree	10	14	09	07	40
Agree	06	14	07	06	33
Moderately Disagree	02	06	03	04	15
Strongly Disagree	02	04	02	02	10
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 2.441077   **NOT SIGNIFICANT**
Scale Index = 2.528

ORG. DEVELOPS HR TOBE COST EFFECTIVE
GHAPH-6.6

Strongly Disagree 8%

Strongly Agree 22%

Moderately Disagree 12%

Moderately Agree 32%

Agree 26%
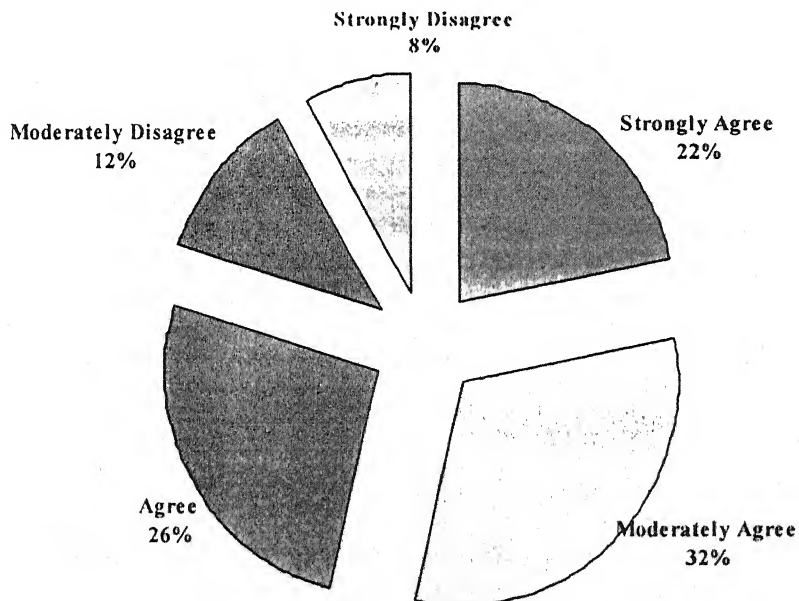
Table – 6.7
UPDATION TRAINING FOR COST EFFICIENCY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	05	03	04	13
Moderately Agree	07	13	08	06	34
Agree	07	17	10	09	43
Moderately Disagree	07	09	03	04	23
Strongly Disagree	03	06	01	02	12
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE –   **NOT SIGNIFICANT**
Scale Index = 2.896

UPDATION TRAINING FOR COST EFFICIENCY
GHAPH-6.7

Strongly Disagree 10%
Strongly Agree 10%
Moderately Agree 27%
Moderately Disagree 18%
Agree 35%
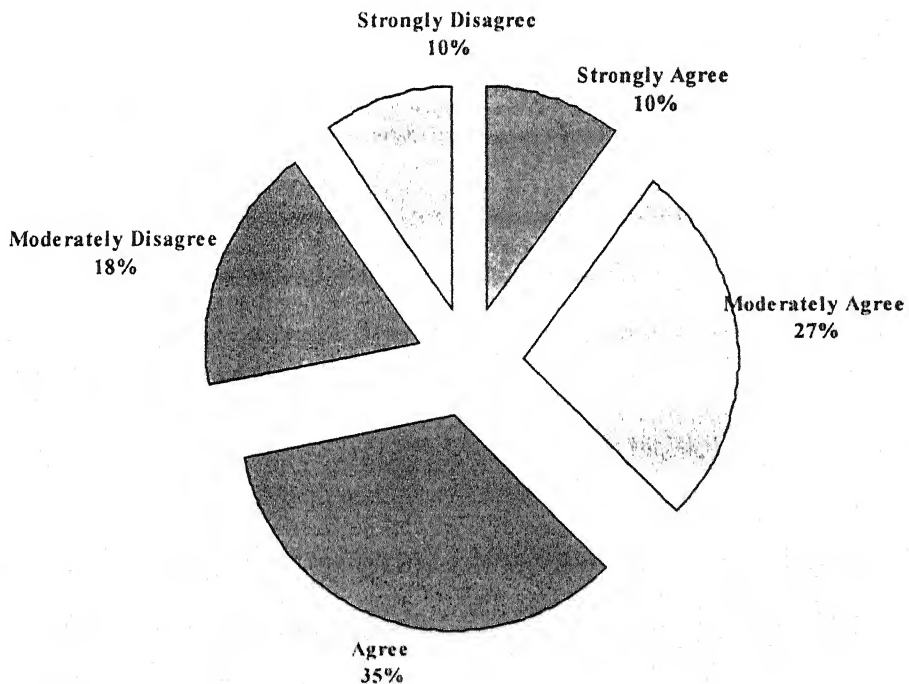
6. The respondents have a fairly strong opinion (scale index 2.45) that the organisation intends to retain human resource by providing housing facility to the human resource (Table 6.8) Table 6.17 with scale index 2.68 indication moderately strong opinion regarding the housing facility to the human resource is that it is provided to ensure the availability of human resource in emergency or in odd hours. The underlying assumption in table 6.17 is that the housing facility is provided near the place of work. The comparison of the two scale indexes favour that the primary objective of providing housing facility to human resource is to retain them and the availability of human resources in emergency or in odd hours can be called as added advantage of providing housing near the place of work.

7. Table 6.9 shows a scale index of 2.88 which means that the respondents have a quite strong perception that the organisation intends to retain human resource by providing transportation facility to the human resource. Table 6.18 indicates fairly strong view with scale index of 2.7 regarding the statement that the organisation provides transportation facility to ensure that human resource maintain punctuality. The comparison of the two statement favour that the concern for punctuality weights more heavily while providing transportation facility as compared to the retention aspect. However, the above comparison does not undermine the scale index value of 2.88 which can be considered as sufficiently strong enough to ravour the intention of retention in providing the transportation facility to the human resource.

Table – 6.8
INTENDS TO RETAIN HUMAN RESOURCE BY PROVIDING HOUSING FACILITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	10	10	05	06	31
Moderately Agree	08	10	07	08	33
Agree	06	20	09	07	42
Moderately Disagree	01	07	01	03	12
Strongly Disagree	00	03	03	01	7
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 12.14643   **NOT SIGNIFICANT**

Scale Index = 2.448

INTENDS TO RETAIN HR BY PROVIDING HOUSE
GHAPH-6.8

Strongly Disagree 6%

Moderately Disagree 10%

Strongly Agree 25%

Agree 33%

Moderately Agree 26%
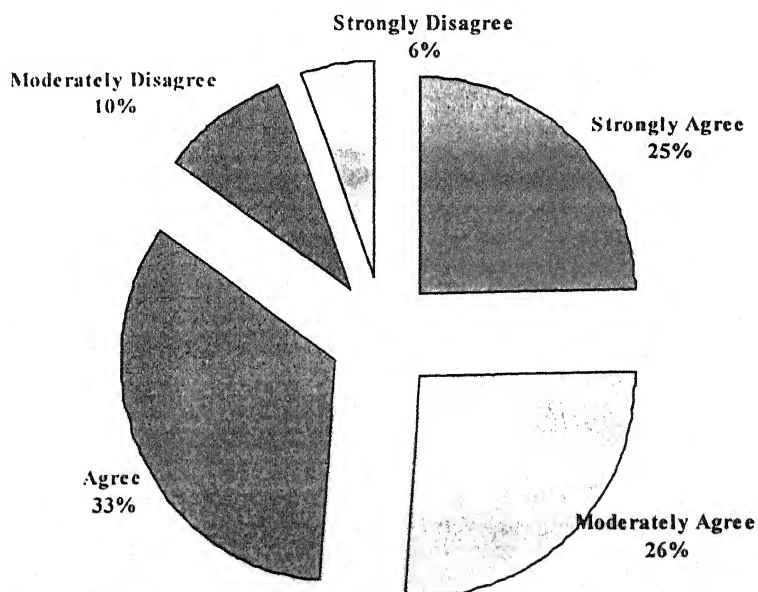
Table – 6.9

INTENTION OF RETAIN HUMAN RESOURCE
BY PROVIDING TRANSPORT FACILITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	05	05	04	18
Moderately Agree	08	09	06	05	28
Agree	07	17	10	09	43
Moderately Disagree	05	10	02	06	23
Strongly Disagree	01	09	02	01	13
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 10.29025 **NOT SIGNIFICANT**
Scale Index = 2.88

INTENDS TO RETAIN BY TRANSPORTATION
GHAPH-6.9

Table – 6.17
HOUSING FACILITY TO HUMAN RESOURCE FOR ENSURING AVAILABILITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	13	04	05	25
Moderately Agree	06	14	05	06	31
Agree	10	12	09	07	38
Moderately Disagree	04	07	05	05	21
Strongly Disagree	02	04	02	02	10
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 4.636074   **NOT SIGNIFICANT**
Scale Index = 2.68

HOUSSING TO HR FOR ENSURING AVAILABILITY
GHAPH-6.17

Strongly Disagree 8%
Strongly Agree 20%
Moderately Disagree 17%
Moderately Agree 25%
Agree 30%
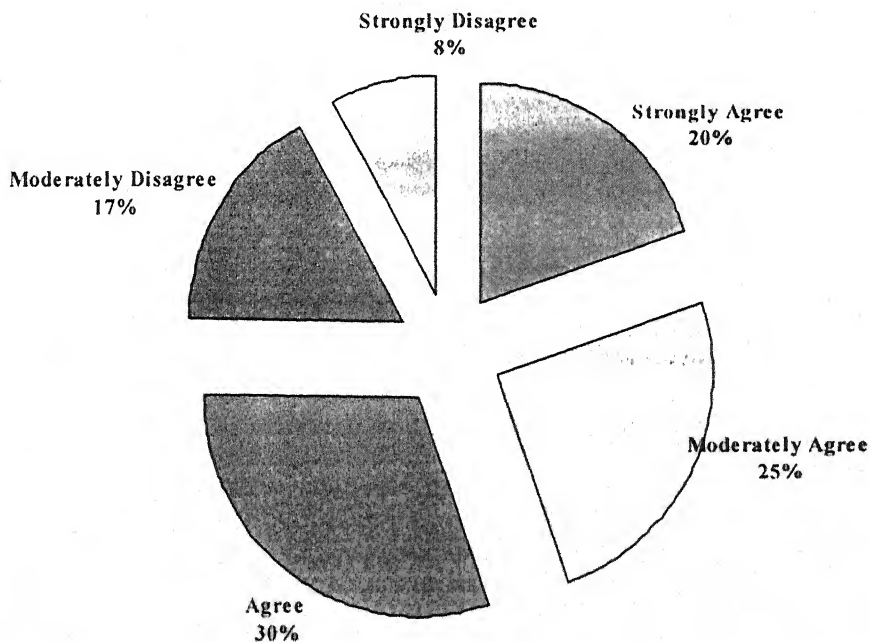
Table – 6.18
TRANSPORT FACILITY TO HUMAN RESOURCE FOR ENSURING PUNCTUALITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	14	03	05	25
Moderately Agree	05	12	08	07	32
Agree	10	10	11	05	36
Moderately Disagree	04	08	02	05	19
Strongly Disagree	03	06	01	03	13
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 11.61753   **NOT SIGNIFICANT**
Scale Index = 2.704

TRANSPORT FACILITY IS FOR PUNCTUALITY
GHAPH-6.18

212
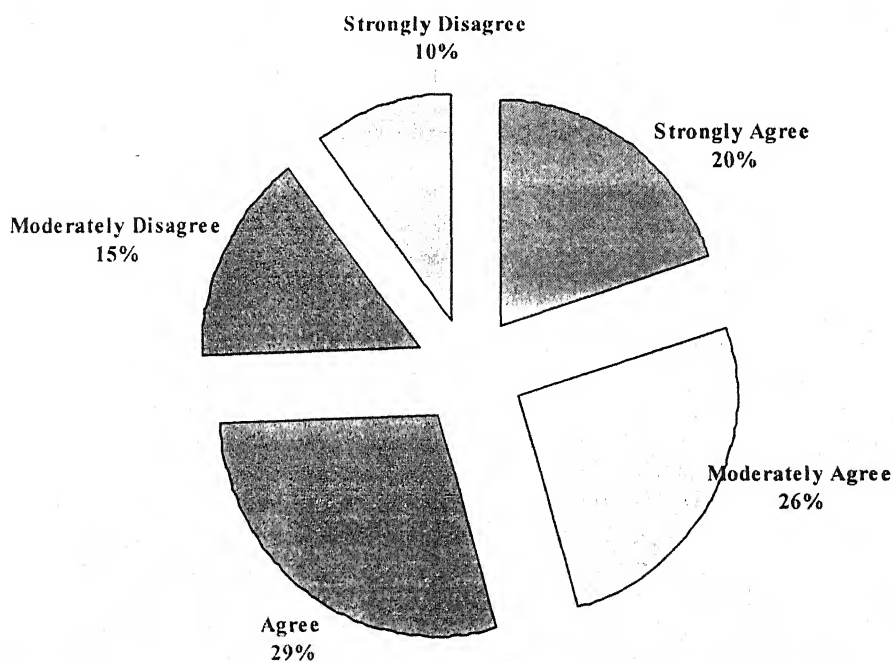
8. The respondents perception is reasonably strong (scale index 2.74) regarding the intention of the organisation to retain in human resource by providing medical facility to them (Table 6.10). A similar view is shown in Table 6.19 with scale index of 2.78 regarding the intention of the organisation in providing medical facility is that the objective is to optimally utilise the human resource. The assumption is that if the human resource is not healthy than the organisation is not make the optimum use of Human Resource. Both the scale index figures are almost equal, hence it can be concluded that both the objectives are equally important in providing medical facility to the human resource.

9. Table (6.11) shows a reasonably strong preparation (Scale Index 2.74) That the organisation intends to retain human resource by the providing leave travel concession facility to the Human Resource. The respondents also have a similar view with scale index of 2.78 shown in Table 6.20 regarding the statement that the organisation provides leave travel concession facility to human resources to keep them fresh for hard work for a long period of time. The assumption is that if a person enjoys holidays outside the normal place of living, then his working efficiency improves when he/she comes back and joins the organisation as the memories of happy days spent earlier keeps them fresh. Both the scale indexes are almost equal, hence it can be said that the objectives are of almost equal importance regarding this facility. However the importance of retention of human resource aspect can not be under estimated due to this.

Table – 6.10

INTENDS TO RETAIN HUMAN RESOURCE BY PROVIDING MEDICAL FACILITY

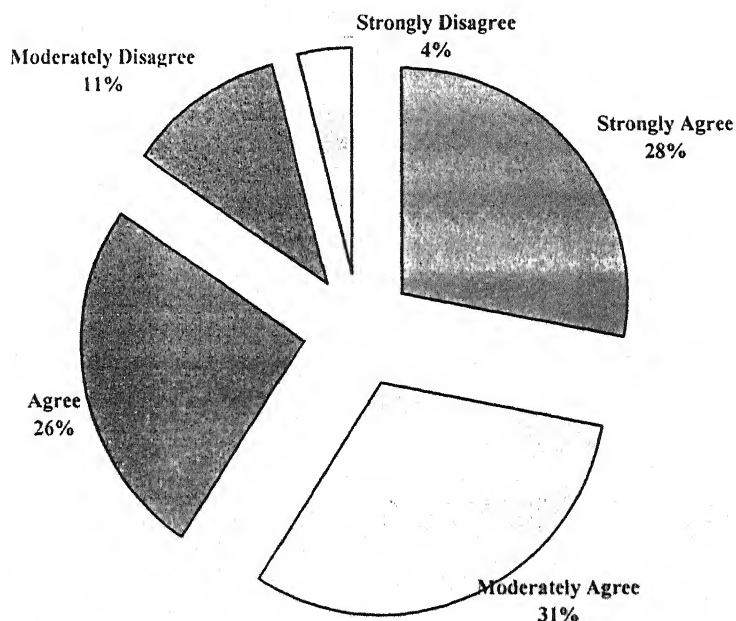| Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	08	04	05	21
Moderately Agree	06	12	08	06	32
Agree	06	19	07	08	40
Moderately Disagree	06	07	05	04	22
Strongly Disagree	03	04	01	02	10
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 3.946158   **NOT SIGNIFICANT**
Scale Index = 2.744

INTENDS TO RETAIN BY MEDICAL FACILITY
GHAPH-6.10

Strongly Disagree 8%
Strongly Agree 17%
Moderately Disagree 18%
Moderately Agree 26%
Agree 31%

Table – 6.11

214
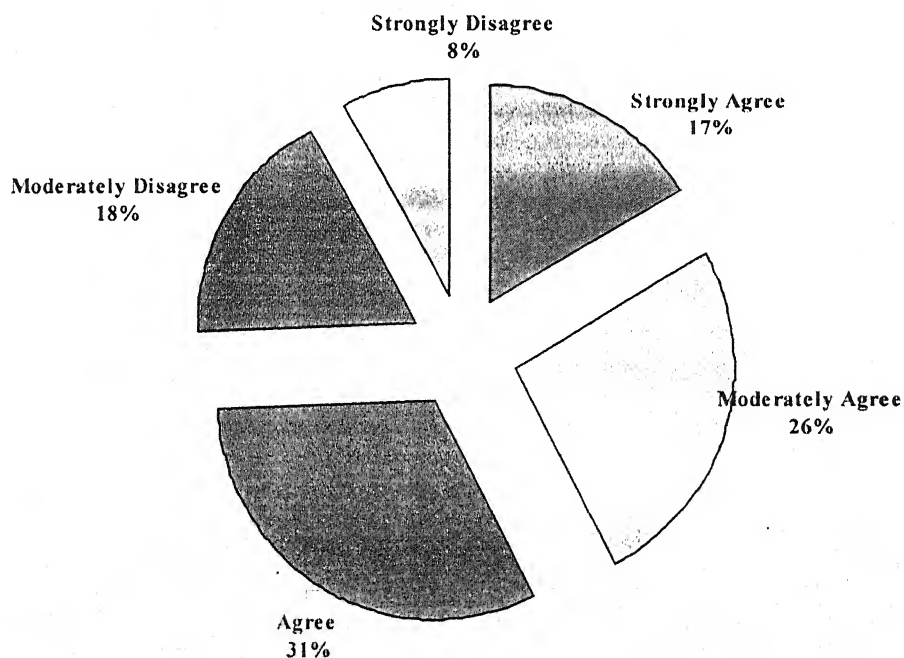
INTENDS TO RETAIN HUMAN RESOURCE BY PROVIDING LTC FACILITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	11	03	05	22
Moderately Agree	05	15	11	07	38
Agree	07	12	06	06	31
Moderately Disagree	08	04	03	04	19
Strongly Disagree	02	08	02	03	15
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 11.97193   **NOT SIGNIFICANT**

Scale Index = 2.736

INTENDS TO RETAIN BY LTC FACILITY
GHAPH-6.11

Strongly Disagree 12%

Strongly Agree 18%

Moderately Disagree 15%

Moderately Agree 30%

Agree 25%
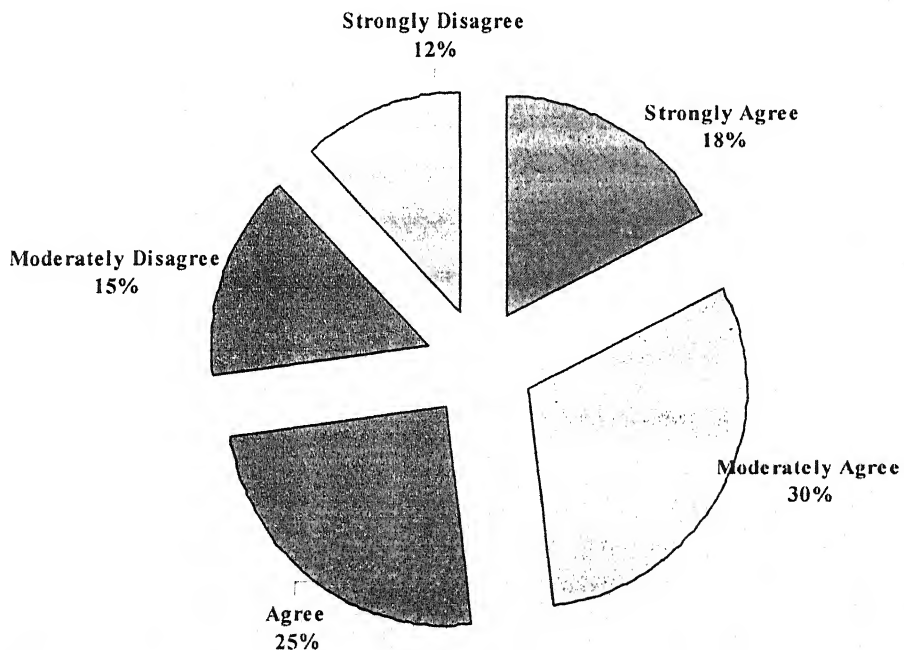
Table – 6.19

MEDICAL FACILITY FOR OPTIMUM UTILISATION OF HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	11	03	04	20
Moderately Agree	06	08	05	05	24
Agree	11	18	10	09	48
Moderately Disagree	05	11	07	06	29
Strongly Disagree	01	02	00	01	04
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 4.688218   **NOT SIGNIFICANT**

Scale Index = 2.784

MEDICAL FACILITY FOR BEST UTILISATION
GHAPH-6.19

Strongly Disagree 3%
Strongly Agree 16%
Moderately Disagree 23%
Moderately Agree 19%
Agree 39%
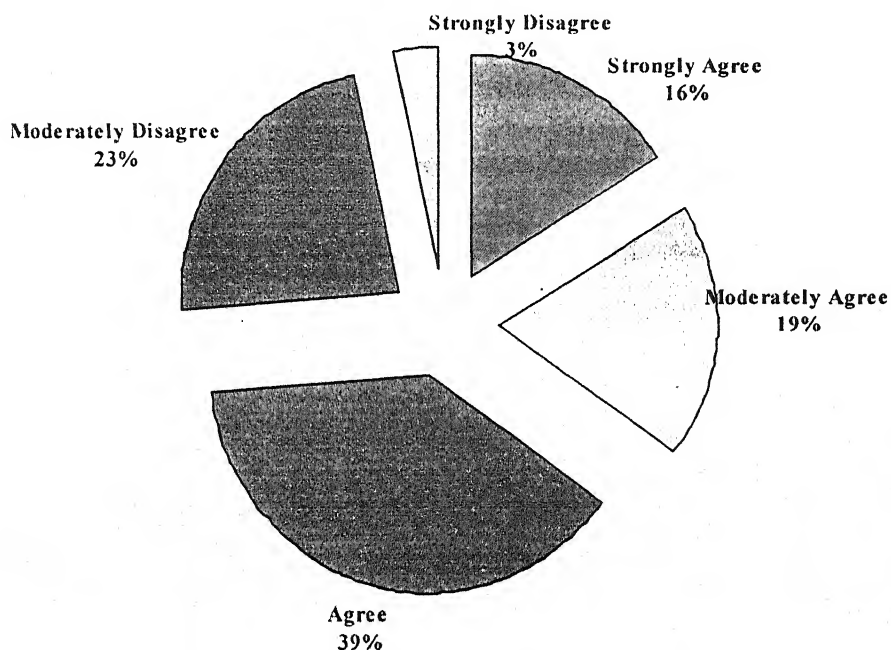
Table – 6.20

LTC FACILITY KEEPS HR FRESH HARD WORK FOR A LONG TIME

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	10	02	03	19
Moderately Agree	05	12	06	05	28
Agree	11	18	12	08	49
Moderately Disagree	03	06	03	07	19
Strongly Disagree	02	04	02	02	10
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.474221 **NOT SIGNIFICANT**
Scale Index = 2.784

LTC KEEPS HR FRESH FOR HARD WORK
GHAPH-6.20

Strongly Disagree 8%
Strongly Agree 15%
Moderately Agree 22%
Moderately Disagree 15%
Agree 40%
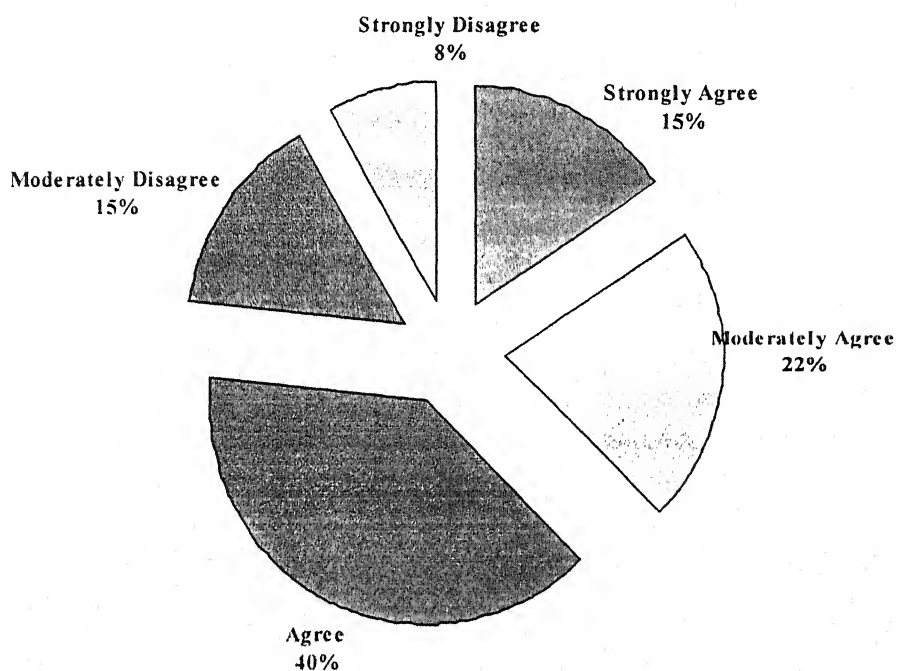
10. Table 6.12 is showing a scale index of 3.34 which means that the respondent agree to some extent that the organisation undertakes pollution control measures to retain human resource in the organisation. The underlying assumption is that if pollution control measures are not taken in an organisation than people may not prefer to remain in that organisation due to health hazards. The respondents have a quite strong opinion regarding the direct impact on health as is evident from Table 6.21 with scale index of 2.89 this table is regarding the statement that the organisation undertakinges pollution control measures to ensure good health of the human resource. The logical deduction can be that health of the human resource is the primary concern in undertaking pollution control measures but the organisation is concerned with the health of the human resource only because they are useful and the intention is to retain human resource.

11. The respondents agree to some extent (scale index 3.39) that the organisation intends to retain human resource by undertaking safety measures in the organisation (Table 6.13). The underlying assumption is that human resource may not prefer to continue in and organisation where he/she feels that his/her life is not safe, Table 6.22 with scale index of 2.7 means that the respondents have a fairly strong opinion that the safety measures within the organisation are undertaken to avoid any happening within the organisation which may lead to trouble like strike. etc.. The point to be noted here is that the organisations feel the cost of safety measures is less as compared to the loss due to labour unrest.

Table – 6.12

INTENDS TO RETAIN HUMAN RESOURCE BY CONTROLLING POLLUTION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	02	02	02	09
Moderately Agree	04	07	05	03	19
Agree	09	16	07	06	38
Moderately Disagree	06	15	08	09	38
Strongly Disagree	03	10	03	05	21
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 4.606307   **NOT SIGNIFICANT**

Scale Index = 3.44

INTENS TO RETAIN BY POLLUTION CONTROL
GHAPH-6.12

Strongly Disagree 17%
Strongly Agree 7%
Moderately Agree 15%
Moderately Disagree 30%
Agree 31%

219
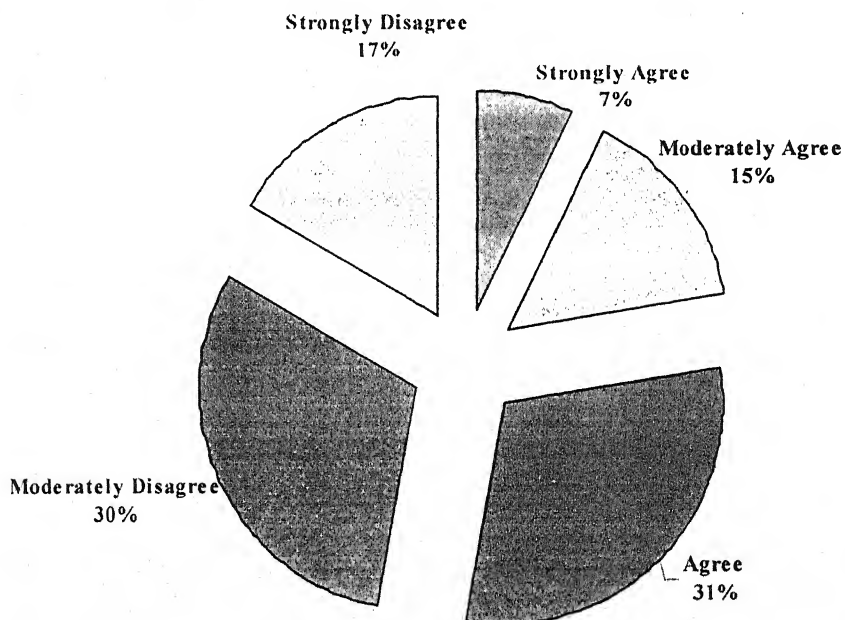
Table – 6.13
INTENDS TO RETAIN HUMAN RESOURCE BY UNDERTAKING SAFETY MEASURES

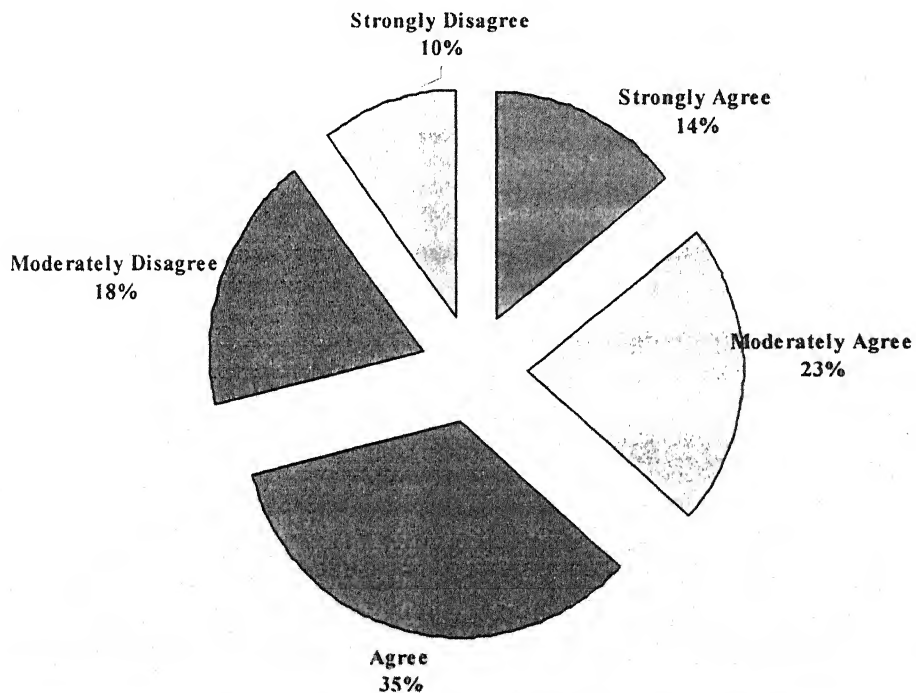| Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	02	01	01	05
Moderately Agree	02	09	07	04	22
Agree	08	16	10	09	43
Moderately Disagree	09	09	04	07	29
Strongly Disagree	05	14	03	04	26
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 8.875167   **NOT SIGNIFICANT**

Scale Index = 3.392

INTENS TO RETAIN BY SAFETY MEASURES
GHAPH-6.13

Strongly Disagree 21%

Strongly Agree 4%

Moderately Agree 18%

Moderately Disagree 23%

Agree 34%
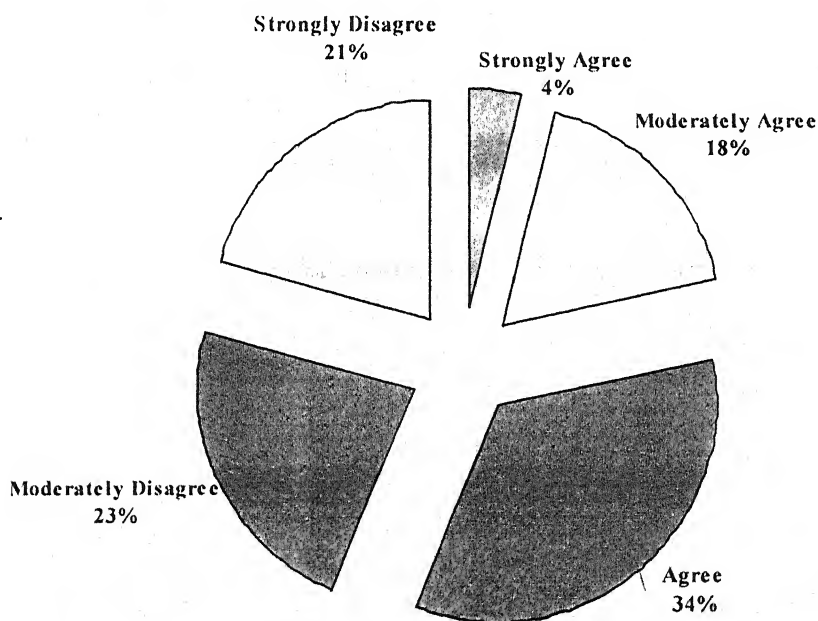
Table – 6.21

POLLUTION CONTROL MEASURES TO ENSURE GOOD HEALTH OF HR

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	13	03	04	22
Moderately Agree	04	08	05	07	24
Agree	08	13	10	08	39
Moderately Disagree	08	10	04	04	26
Strongly Disagree	03	06	03	02	14
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 8.638861   **NOT SIGNIFICANT**
Scale Index = 2.888

POLLUTION CONTROL TO ENSURE HR HEALTH
GHAPH-6.21

Strongly Disagree 11%
Strongly Agree 18%
Moderately Agree 19%
Moderately Disagree 21%
Agree 31%
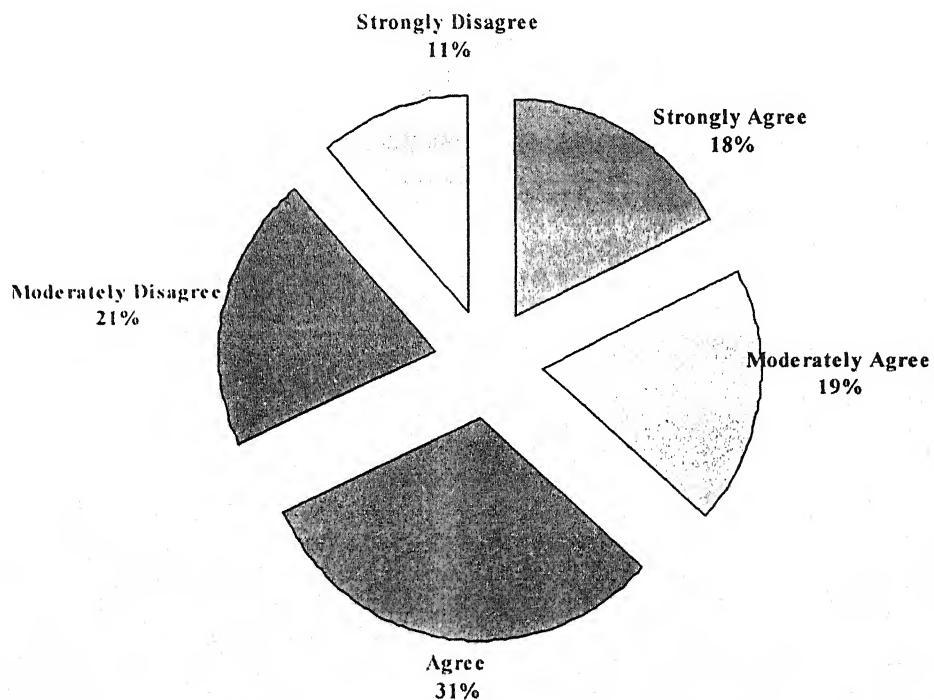
Table – 6.22
SAFETY MEASURES TO AVOID MISHAPPENING LEADING TO TROUBLE IN ORG.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	09	04	04	20
Moderately Agree	04	15	07	08	34
Agree	09	17	10	08	44
Moderately Disagree	07	05	02	03	17
Strongly Disagree	02	04	02	02	10
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 7.062834   **NOT SIGNIFICANT**
Scale Index = 2.704

SAFETY MEASURES TO AVOID TROUBLE
GHAPH-6.22

Strongly Disagree 8%
Strongly Agree 16%
Moderately Disagree 14%
Moderately Agree 27%
Agree 35%
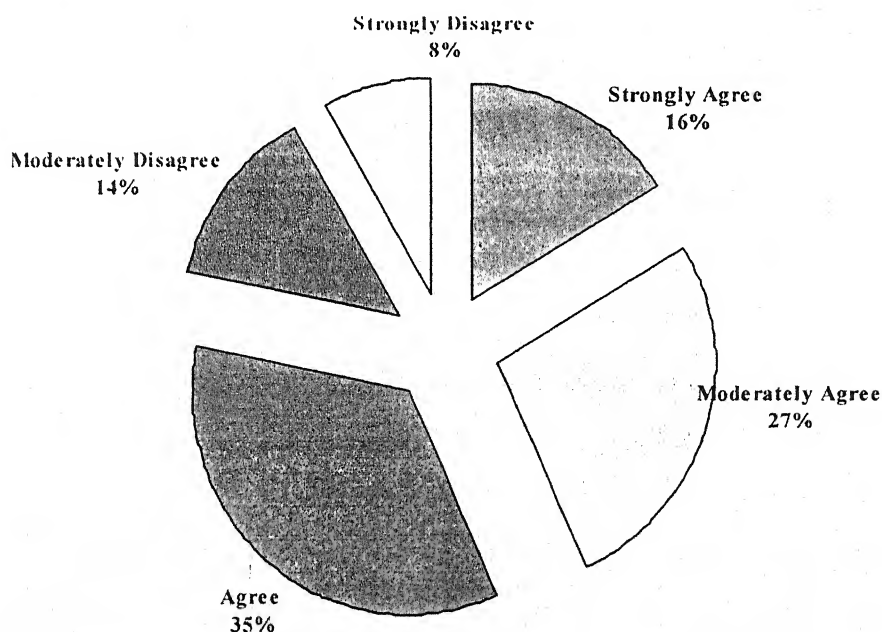
12. Table 6.14 shows that respondents agree to some extent (scale index 3.22) that the organisation intends to retain human resource by providing facilities like canteen, etc. A similar view is in Table 6.24 with scale index of 3.29. That the organisation provides canteen facility to ensure that the human resource remain inside the organisation during working hours and lunch time. The two scale indexes are almost equal which means that both the objectives are almost equally important when the organisation provides facilities like canteen, etc. This does not mean that the retention of human resource aspect is not important. The concept of multiplicity of objectives is relevant here to understand the basic objective of retention of human resource.

13. The respondents agree to some extent (scale index 3.46) that the recreation facility is provided to the human resource by the organisation to retain them (Table 6.15). The respondents have a fairly strong opinion (Scale index 2.61)

shown in Table 6.23 that the organisation provides recreation facility to keep the human resource mentally and physically fit. This means that the primary objective seems to be the mental and physical fitness of human resource but it is important to note here that the organisation is concerned with the fitness of human resource because of the basic objective of retaining them. It may be said that this facility indirectly leads to retention of human resource because if the human is mentally and physically fit than he/she would be satisfied with the organisational efforts and is more likely to respond by remaining with the same orgainsation.

Table – 6.14

INTENDS TO RETAIN HUMAN RESOURCE BY PROVIDING CANTEEN FACILITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	03	04	02	13
Moderately Agree	06	08	06	03	23
Agree	07	13	12	05	37
Moderately Disagree	05	12	02	09	28
Strongly Disagree	03	14	01	06	24
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 18.52051   **NOT SIGNIFICANT**
Scale Index = 3.216

INTENDS TO RETAIN BY CANTEEN FACILITY
GRAPH-6.14

Strongly Disagree 19%
Strongly Agree 10%
Moderately Agree 18%
Moderately Disagree 22%
Agree 31%
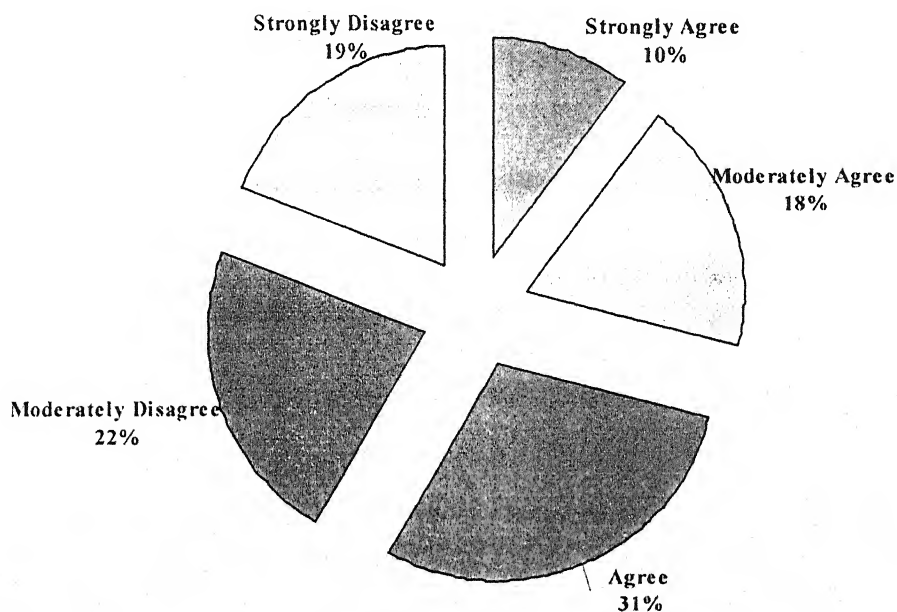
Table – 6.15
INTENDS TO RETAIN HUMAN RESOURCE BY PROVIDING RECREATION FACILITY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	02	00	01	04
Moderately Agree	02	07	09	04	22
Agree	07	14	11	07	39
Moderately Disagree	10	13	11	09	33
Strongly Disagree	05	14	04	04	27
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 18.24624   **NOT SIGNIFICANT**
Scale Index = 3.456

INTENDS TO RETAIN BY RECREATION FACILITY
GHAPH-6.15
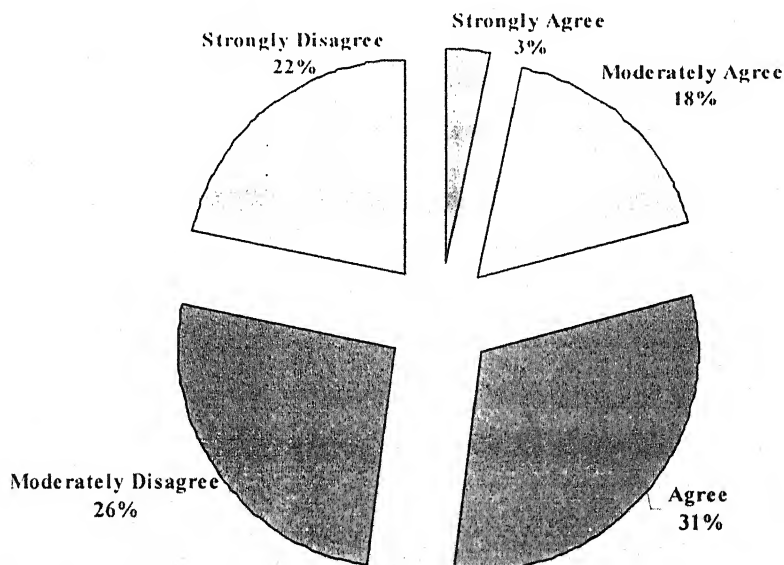
Table – 6.23

RECREATION FACILITY TO KEEP HR MENTALLY AND PHYSICALLY FIT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	15	02	05	26
Moderately Agree	06	13	07	06	32
Agree	08	14	10	09	41
Moderately Disagree	05	05	04	03	17
Strongly Disagree	02	03	02	02	09
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.776124   **NOT SIGNIFICANT**
Scale Index = 2.608

RECREATION FACILITY TO KEEP HR FIT
GHAPH-6.23
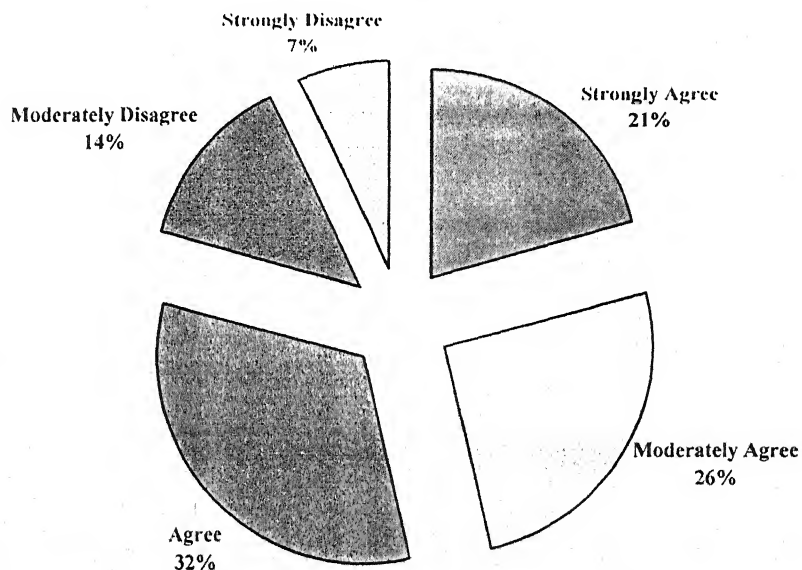
Table – 6.24

CANTEEN FACILITY TO KEEP HUMAN RESOURCE INSIDE DURING LUNCH TIME

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	07	00	02	22
Moderately Agree	04	10	05	03	22
Agree	06	13	05	07	31
Moderately Disagree	08	12	10	08	38
Strongly Disagree	04	08	05	05	22
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.469651   **NOT SIGNIFICANT**
Scale Index = 3.288

CANTEEN TO KEEP HR INSIDE DURING LUNCH
GHAPH-6.24
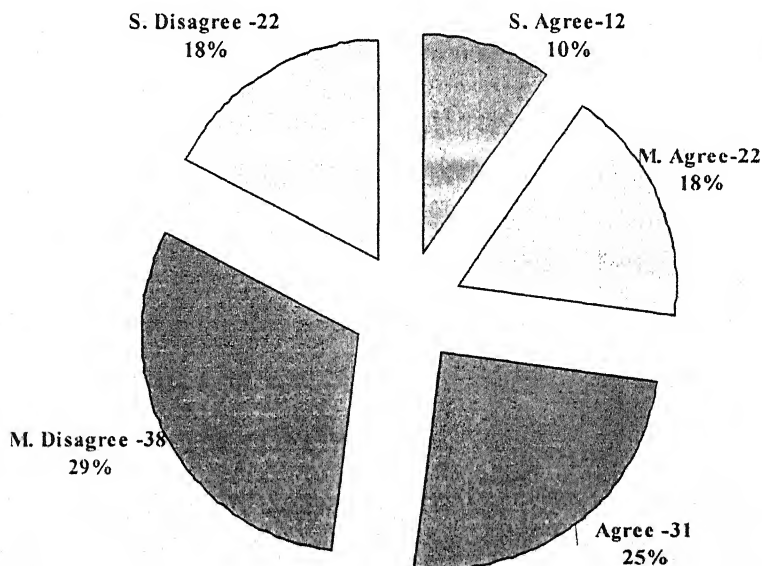
14. There is a fairly strong opinion with scale index of 2.37 shown in Table 6.16 that large organisation develop township in remote underdeveloped or underdeveloped areas basically with the intention to retain human resource. Similarly there is a fairly strong perception with scale index of 2.38 shown in Table 6.25 that the large organisation are bound to develop their own township in remote undeveloped or underdeveloped area. Inadequacy of housing facility in undeveloped or underdeveloped areas, is the basic reason that binds the large organisation to develop their own township due to the large number or human resource required to run the organisation. Hence, it is practically not feasible to acquire human resource in such areas without providing them adequate housing facility. The scale index in both the variables are almost equal but both them strengthens the basic aspect of retention of human resource because if it is equally important for both acquisition and retention of human resource than it should be kept in mind that the ultimate objective of acquisition is that acquired human resource is retained in the organisation.

15. The respondent perception is quite strong with scale index of 2.07 shown in Table 6.26 that the retirement benefits are offered by the organisation to the human resource primarily with the intention that the human resource would serve the organisation for a very long period of time or throughout his useful service tenure. The respondents have a divided opinion as is clear from scale index of 3.49 shown in Table 6.30 regarding the statement that the organisation keeps retirement benefits just to fulfill the legal requirement keep retirement benefits just to fulfill the legal requirement which further strengthens the point that retirement benefits are meant to retain the human resource.

Table – 6.16

INTENDS TO RETAIN HR BY DEVELOPING TOWNSHIP IN REMOTE AREAS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	08	16	05	07	36
Moderately Agree	07	13	07	08	35
Agree	08	12	07	08	36
Moderately Disagree	01	05	01	01	08
Strongly Disagree	01	04	05	00	10
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 10.79067   **NOT SIGNIFICANT**

Scale Index = 2.368

INTEND TO RETAIN BY DEVLOPING TOWNSHIP
GHAPH-6.16

S. Disagree -10
8%

M. Disagree -8
6%

S. Agree-36
29%

Agree -36
29%

M. Agree-35
28%
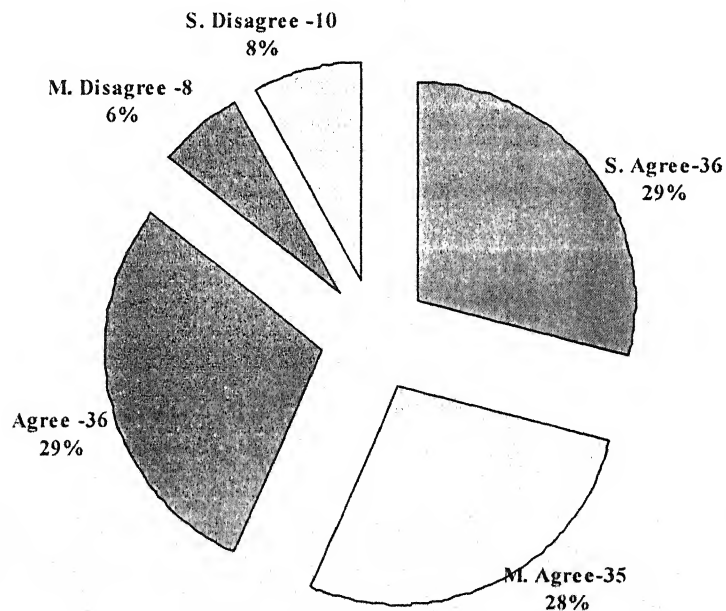
Table – 6.25

LARGE ORG. BOUND TO DEVELOP TOWNSHIP IN REMOTE UNDEVELOPED AREAS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	07	17	05	08	37
Moderately Agree	06	16	06	07	35
Agree	07	10	07	05	29
Moderately Disagree	04	05	05	03	17
Strongly Disagree	01	02	02	02	07
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05)   21.03

Computed value of CHI SQUARE – 4.814186   **NOT SIGNIFICANT**

Scale Index = 2.376

BOUND TO DEVLOP TOWNSHIP IN REMOTE AREA
GHAPH-6.25

S. Disagree -7
6%

M. Disagree -17
14%

S. Agree-37
29%

Agree -29
23%

M. Agree-35
28%
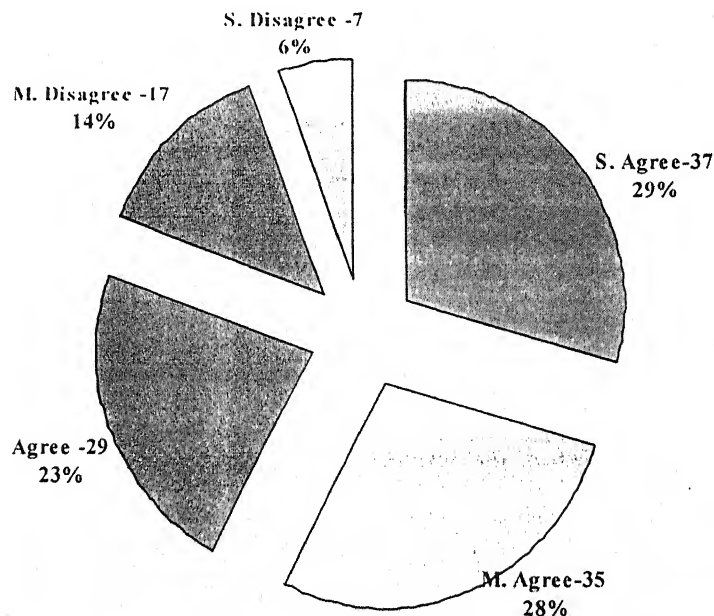
Table – 6.26

INTENDS TO RETAIN HUMAN RESOURCE BY PROVIDING RETIREMENT BENEFITS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	07	18	08	09	42
Moderately Agree	08	17	11	08	44
Agree	06	11	05	06	28
Moderately Disagree	03	04	01	02	10
Strongly Disagree	01	00	00	00	01
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.221861   **NOT SIGNIFICANT**
Scale Index = 2.072

INTENDS TO RETAIN BY RETIREMENT BENEFITS
GHAPH-6.26

M. Disagree -10 8%
S. Disagree -1 1%
S. Agree-42 34%
Agree -28 22%
M. Agree-44 35%

231
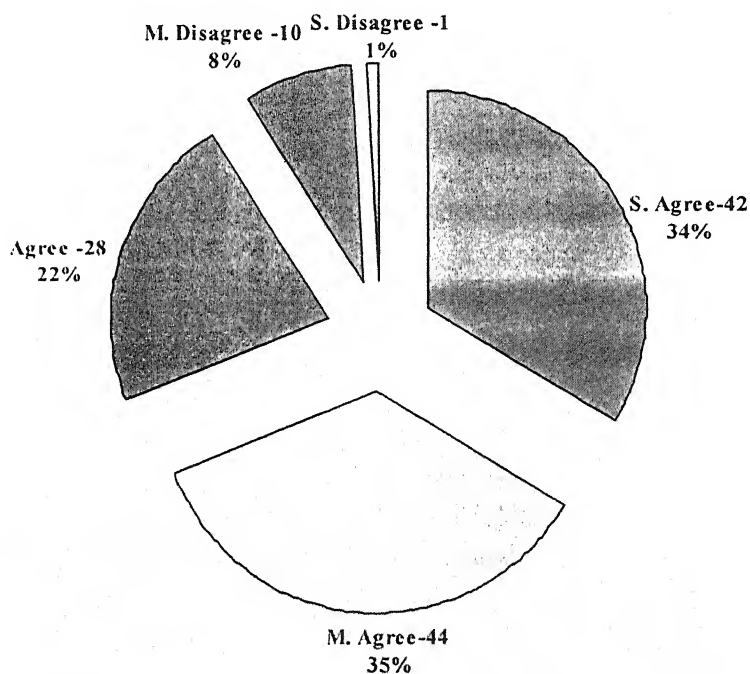
Table – 6.30

ORG. KEEPS RETIREMENT BENEFITS JUST TO FULFILL LEGAL REQUIREMENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	02	03	01	08
Moderately Agree	04	08	04	04	20
Agree	05	15	05	05	30
Moderately Disagree	09	14	07	07	37
Strongly Disagree	05	11	06	08	30
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 4.599099   **NOT SIGNIFICANT**
Scale Index = 3.488

RETIREMENT BENEFITS TO SATISFY LAW
GHAPH-6.30

S. Agree-8
6%

M. Agree-20
16%

S. Disagree -30
24%

Agree -30
24%

M. Disagree -37
30%
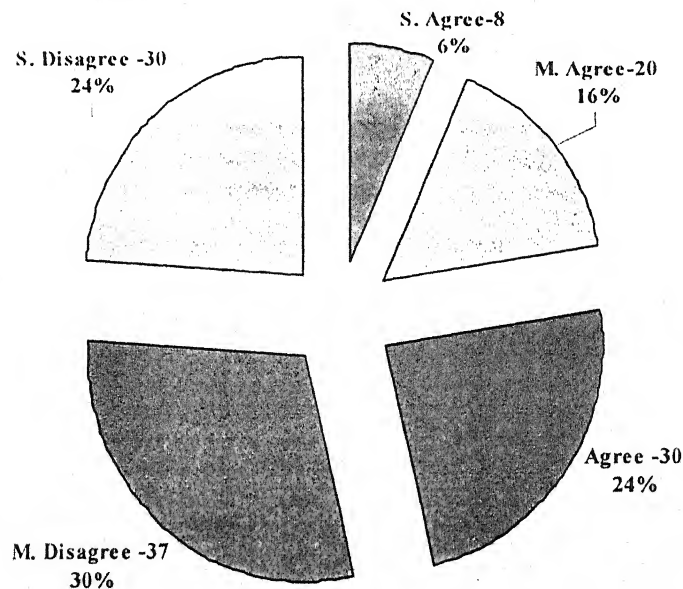
16. The organisation does not offer pre-mature retirement to those human resource whom the organisation considers more potentially useful human resource as compared to other people in the same job. This statement got a fairly strong positive response with scale index of 2.13 shown in Table 6.27. This indicates that the organisation conducts some kind valuation, written or conceptual, of human resource to compare between less and more potentially useful human resource. The valuation may be subjective, but the important point is that information about human resource is relevant for taking decisions which are related to human resource an any respect like pre-mature retirement.

17. Table 6.28 shows a scale index of 2.23 which means that the respondents favour quite strongly that the individual sticks to an organisation which makes efforts to retain human resource and the individual is satisfied by the organisational efforts in this regard. The degree of satisfaction of human resource is a very important aspect and the organisation should take them seriously.

18. The respondent have a very strong favorable perception as is evident form scale index of 1.89 (Table 6.29) that an individual prefers to ertire from an organisation which is known for giving good treatment to the retired human resource. The financial security after retirement is also an impotent factor which an individual takes into account while taking the decision to remain in the organisation.

Table – 6.27

PRE-MATURE RETIREMENT IS NOT OFFERED TO USEFUL HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	06	18	07	10	41
Moderately Agree	07	15	10	09	41
Agree	07	13	06	05	31
Moderately Disagree	03	04	02	01	10
Strongly Disagree	02	00	00	00	02
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 11.45633 **NOT SIGNIFICANT**

Scale Index = 2.128

PRE-MATURE RETIREMENT NOT FOR USEFUL HR
GHAPH-6.27
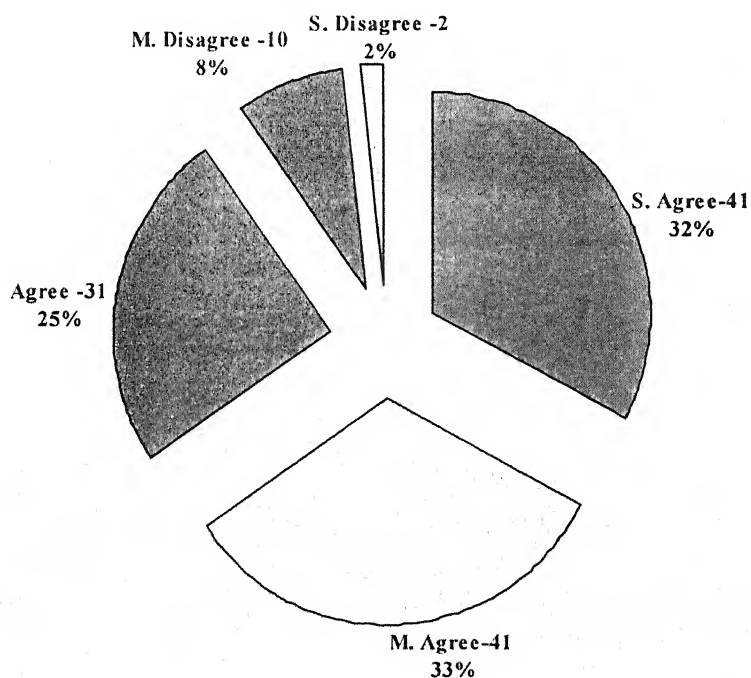
Table – 6.28

HUMAN RESOURCE STICKS TO AN ORGANISATION WHERE HE IS SATISFIED

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	08	17	09	08	42
Moderately Agree	07	16	06	07	36
Agree	06	11	05	06	28
Moderately Disagree	03	04	04	03	17
Strongly Disagree	01	02	01	01	05
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 1.597222   **NOT SIGNIFICANT**

Scale Index = 2.232

HR STICKS IN AN ORG. WHERE SATIFIED
GHAPH-6.28

S. Disagree -5
4%

M. Disagree -17
13%

S. Agree-42
33%

Agree -28
22%

M. Agree-36
28%
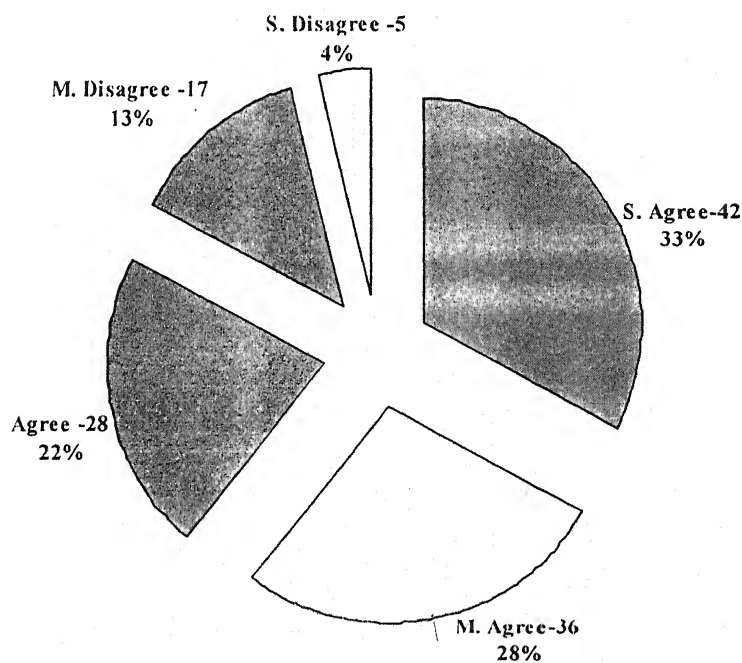
Table – 6.29

HUMAN RESOURCE PREFERS TO RETIRE FROM AN ORG. WHICH GIVES GOOD TREATMENT TO RETIRED HUMAN RESOURCE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	11	21	10	11	53
Moderately Agree	07	18	09	08	42
Agree	05	09	04	05	23
Moderately Disagree	01	02	01	01	05
Strongly Disagree	01	00	01	00	02
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 3.599164   **NOT SIGNIFICANT**
Scale Index = 1.888

HR PREFERS TO RETIRE FROM GOOD ORG.
GHAPH-6.29

M. Disagree -5
4%

S. Disagree -2
2%

Agree -23
18%

S. Agree-53
42%

M. Agree-42
34%
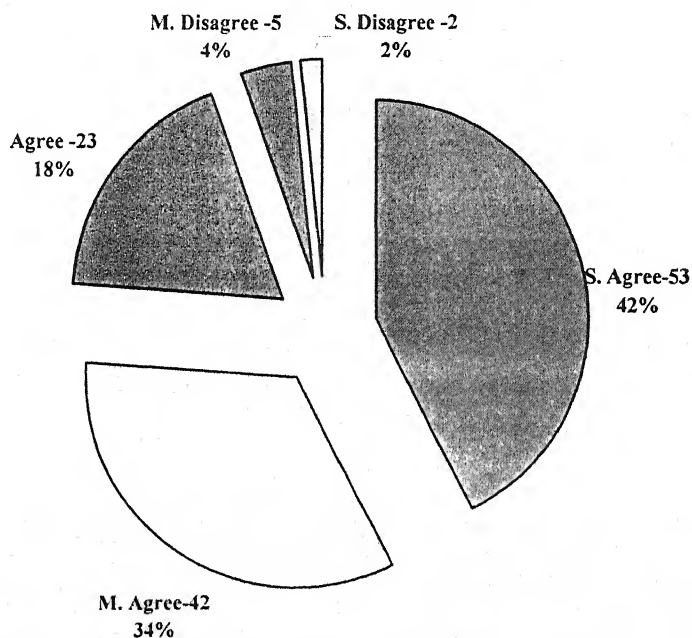
II.   DEGREE OF SATISFACTION OF HUMAN RESOURCE

This part analyses the satisfaction level of the respondents with respect to the organisational efforts in the from of compensation and other bendfits with the objective of retaining them. The various facets concerning the satisfaction are shown from Table 6.31 to 6.61 which is summarised in Table 6.63. The summarised table contains the chi-square and scale index values of 31 tables.

It is important to note that no Chi- square value is significant in Table 6.63 which means the perceptions of the respondents of different sectors does not differ significantly. The combined scale index of 3.3 reflects that the satisfaction level of the respondents taking various facets is very low but 3.3 can not be interpreted as dis-satisfied. But such a low satisfaction level is not a good sign because satisfaction level of the human resource has a direct impact on the preference of the individual to remain in an organization. It means that if the individual is dis satisfied than he/she would prefer to leave that organization at the earliest possible opportunity and if the individual is satisfied than he/she would prefer to continue in the same organisation for a long period of time. Further the level of satisfaction has an impact on the motivation level which affects the performance of an individual on the job. This means that if an individual is working in the organisation with low satisfaction level than his/her performance will be adversely affects.

TABLE – 6.63
SUMMARY TABLE SHOWING
DEGREE OF SATISFACTION OF HUMAN RESOURCE

T. No.	Particulars of Questions Asked	Chi-square	Scale Index
31	Compensation is adequate looking to work	6.240056	3.592
32	Compensation (C.) is better than other org.	13.05482	3.696
33	C. is adequate to maintain SOL Expected by co.	10.384	3.424
34	C. is adequate to maintain SOL Expected by you	7.029428	3.976
35	Emoluments are sufficient to maintain family	18.23192	3.52
36	Housing facility is adequate as per ind. Norms	19.70892	3.376
37	Transportation facility keeps you fresh on job	4.389442	2.392
38	Medical facilities are satisfactory as per org.	6.761919	3.272
39	Education of children is better than other cos.	15.14448	3.904
40	Drinking water facility makes you feel happy	8.693139	3.288
41	Medical facilities are better than other org.	13.61963	3.464
42	Prospects of HR are cared by the org.	6.506835	3.648
43	Salf esteem needs of ind. are given due regard.	5.350198	3.336
44	One can think of self actualization in this co.	4.564645	3.44
45	VRSs are beneficial for the individual	5.34934	3.184
46	Development need of individuals are fulfilled	7.154192	3.616
47	Safety needs of ind. are duly regarded by org.	5.296885	2.84
48	Recreational facility provided is satisfactory	15.62916	3.376
49	Retirement benefits matches with status of job	6.911764	2.872
50	VRss are beneficial for the organisation	5.09861	2.864
51	Right organisation for individual growth	3.751515	3.704
52	Handsome jump in salary for worthy people	16.25476	4.016
53	One who loves work is a real fit in the org.	15.78767	2.912
54	Drastic changes can be easily made in the org.	10.98026	3.312
55	Environment is congenial for Creative work	9.354166	3.144
56	Japanese life time employment is appreciable	4.5625014	2.464
57	American contractual appointment isn't suitable	7.778594	2.464
58	Experience in varied org. makes jack of all	6.976501	3.168
59	Enjoyable to work throughout life in same org.	4.46615	3.072
60	One can spend his whole life in this org.	5.712498	3.552
61	Retiring from this org. can be satisfactory	4.211902	3.296
Totalal of Scale index			102.184
Combined Scale Index			3.296258

Not : 1. Table given above represents data for 125 respondents.

2. No significant value of Chi-Square in the above Table.

1. The satisfaction regarding compensation was tested from various aspects and on the whole was found to be low, the details of which are elaborated blow:

a) The first aspect is from the point of view of work expected by the organisation. The scale index of 3.59 indicates that the satisfaction is very low and the respondents disagree to some extent that the compensation is adequate looking to the work expected by the company from the human resource (Table 6.31)

b) The second is the comparative aspect of compensation. Table 6.32 shows the scale index of 3.7 which means that to some extent there is dis-satisfaction regarding the compensation paid to them as compared to compensation paid by other organisations in the same industry.

c) The third aspect is the adequacy of compensation to maintain the standard of living expected by the company. Table 6.33 shows that there is little satisfaction on this aspect (scale index 3.42)

d) The next is the adequacy of compensation to maintain the standard of living expected by the respondent. Table 6.34 with scale index of 3.98 indicates that the respondents moderately disagree that the compensation is adequate to maintain the standard of living expected by them or they are dis-satisfied.

e) The last aspect is shown in Table 6.35 which reflects that the respondents agree to some extent that the emoluments are sufficient to maintain their family.

Table – 6.31

COMPENSATION IS ADEQUATE LOOKING TO THE WORK EXPECTED BY THE CO.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	01	00	01	04
Moderately Agree	06	09	04	03	22
Agree	04	11	06	06	27
Moderately Disagree	08	14	10	08	40
Strongly Disagree	05	15	05	07	32
Total	25	50	25	25	125

D.F. – 12, Table Value at (0.05) – 21.03
Computed value of CHI SQUARE – 6.240056   **NOT SIGNIFICANT**
Scale Index – 3.592

COMPENSATION IS ADEQUATE AS PER WORK
GHAPH-6.31

S. Disagree -32 26%
S. Agree-4 3%
M. Agree-22 18%
Agree -27 22%
M. Disagree -40 31%
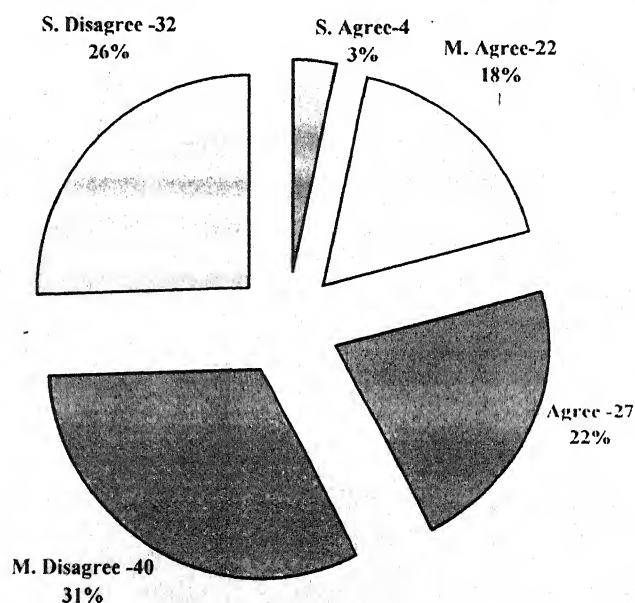
Table – 6.32
COMPENSATION IS BETTER THAN OTHER ORGANISATIONS IN SAME INDUSTRY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	04	01	01	01	07
Moderately Agree	05	06	03	04	18
Agree	04	09	01	05	19
Moderately Disagree	07	16	12	08	43
Strongly Disagree	05	18	08	07	38
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE –13.05482   **NOT SIGNIFICANT**

Scale Index = 3.696

COMPENSATION IS BETTER THAN OTHER ORG. GHAPH-6.32

S. Disagree -38 30%

S. Agree-7 6%

M. Agree-18 14%

Agree -19 15%

M. Disagree -43 35%
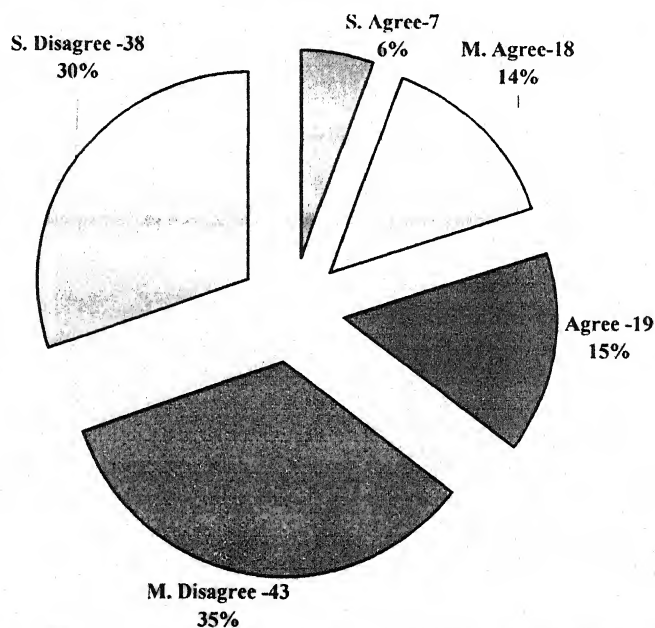
Table – 6.33
COMPENSATION IS ADEQUATE TO MAINTAIN STD OF LIV. BY THE CO.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	02	05	01	10
Moderately Agree	05	09	03	03	20
Agree	06	12	07	05	30
Moderately Disagree	07	13	07	10	37
Strongly Disagree	05	14	03	06	28
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 10.38400   **NOT SIGNIFICANT**

Scale Index = 3.424

COMPENSATION ADEQ. FOR SOL. EXP BY CO.
GHAPH-6.33

S. Disagree -28 22%

S. Agree-10 8%

M. Agree-20 16%

Agree -30 24%

M. Disagree -37 30%
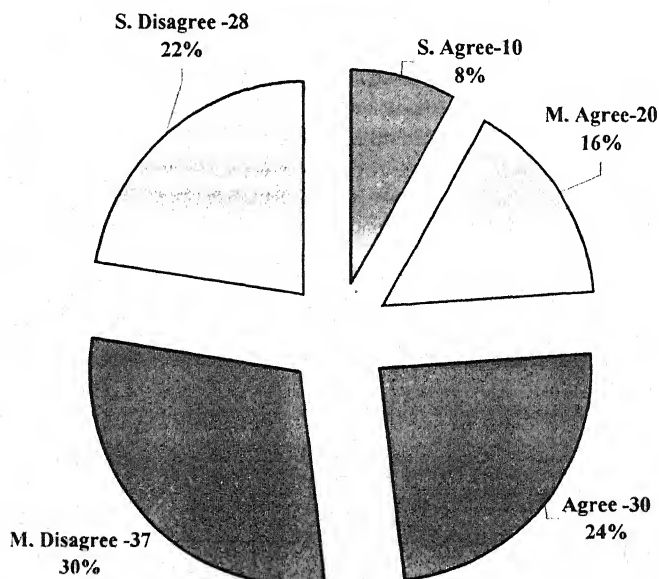
Table – 6.34

COMPENSATION IS ADEQUATE MAINTAIN STD OF LIV. EXPECTED BY YOU

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	00	00	00	01
Moderately Agree	03	03	03	02	11
Agree	06	10	04	06	26
Moderately Disagree	05	17	09	08	39
Strongly Disagree	10	20	09	09	48
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 7.029428   **NOT SIGNIFICANT**

Scale Index = 3.976

COMP. ADEQ. TO MAINTAIN SOL EXP. BY YOU
GHAPH-6.34

S. Agree-1 1%

M. Agree-11 9%

S. Disagree -48 38%

Agree -26 21%

M. Disagree -39 31%
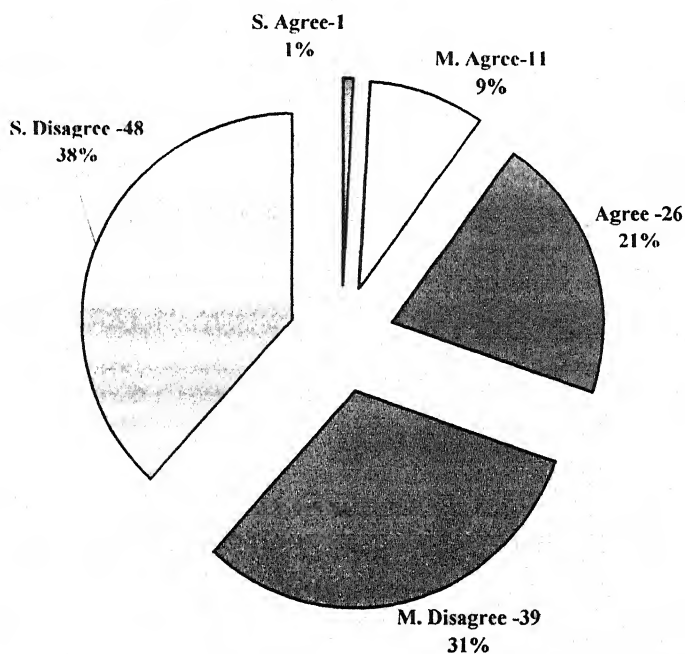
Table – 6.35

THE EMOLUMENTS ARE SUFFICIENT TO MAINTAIN YOUR FAMILY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	00	02	02	01	05
Moderately Agree	02	10	02	05	19
Agree	05	14	13	07	39
Moderately Disagree	07	11	03	09	30
Strongly Disagree	11	13	05	03	32
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 18.23192   **NOT SIGNIFICANT**
Scale Index = 3.52

EMOLUMENT SUFFICIENT TO MAINTAIN FAMILY
GHAPH-6.35

S. Agree-5 4%
M. Agree-19 15%
Agree -39 31%
M. Disagree -30 24%
S. Disagree -32 26%
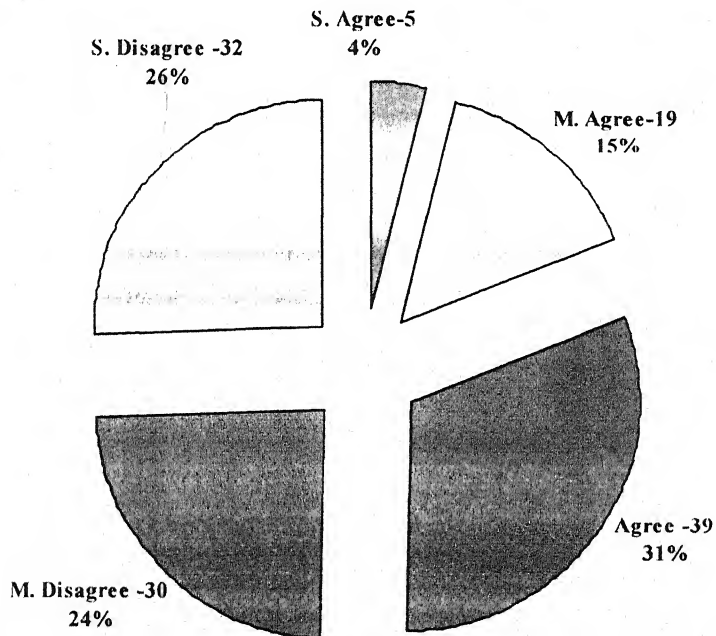
2. The respondents agree to some extent (scale index 3.38) regarding the statement that the housing facility is adequate as per the industry norms (Table 6.36) which means that the satisfaction level is low as far as this facility is concerned.

3. The scale index 2.39 shown in Table 6.37 reveals that the respondents quite strongly favour the statement that the transportation facility reduces mental strain of daily commuting and keeps you fresh while on job.

4. Table 6.38 reveals that the medical facilities are satisfactory looking to the organisation which is supported by scale index of 3.37. But the respondents agree to a little extent (Scale index 3.40) that the medical facilities are better than other companies in the same industry (Table 6.41)

5. The respondents moderately disagree as is shown by scale index of 3.9 in Table 6.39 that the education facilities for the children of employees are better as compared to other companies in the same industry. This indicates the dis-satisfaction level or the human resource.

6. The scale index of 3.29 in Table 6.40 indicates that the respondents are satisfied to some extent with the drinking water facility provided by the organisation for the human resource.

7. The respondents moderately disagree (scale index 3.65) that the career prospectes of individuals are taken care of by the organisation (Table 6.42) which reflects the dis-satisfaction level of the human resource.

Table – 6.36

HOUSING FACILITY IS ADEQUATE AS PER THE INDUSTRY NORMS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	01	00	04	08
Moderately Agree	05	10	01	06	22
Agree	10	13	11	05	39
Moderately Disagree	03	12	05	07	27
Strongly Disagree	04	14	08	03	29
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 19.70892   **NOT SIGNIFICANT**
Scale Index = 3.376

HOUSING ADEQUATE AS PER INDUSTRY NORMS
GHAPH-6.36

S. Agree-8 6%
S. Disagree -29 23%
M. Agree-22 18%
M. Disagree -27 22%
Agree -39 31%
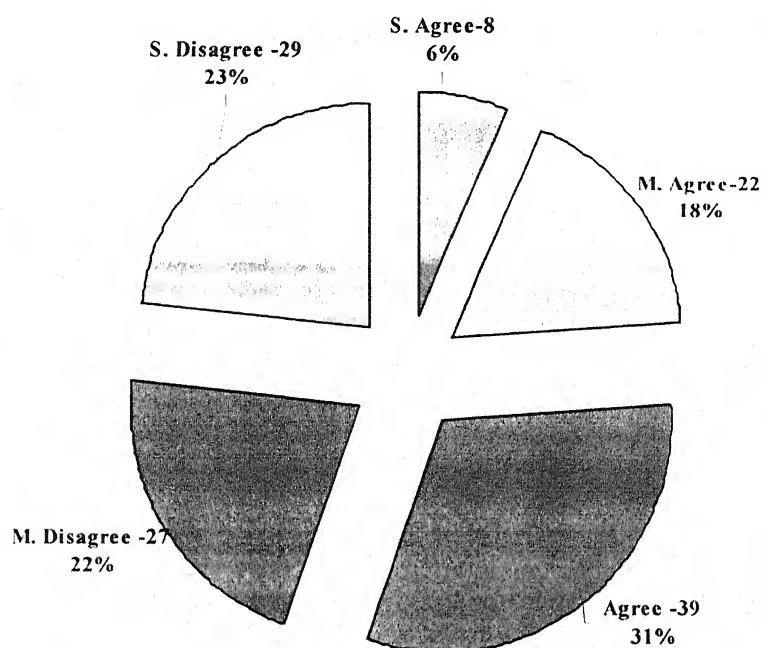
Table – 6.37

TRANSPORTATION FACILITY REDUCES STRAIN & KEEPS YOU FRESH ON JOB

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	09	15	07	08	39
Moderately Agree	06	14	04	07	31
Agree	06	10	07	06	29
Moderately Disagree	03	07	06	03	19
Strongly Disagree	01	04	01	01	07
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 4.389442   **NOT SIGNIFICANT**
Scale Index = 2.392

TRANSPORT FACILITY KEEPS FRESH ON JOB
GHAPH-6.37

S. Disagree -7
6%

S. Agree-39
31%

M. Disagree -19
15%

Agree -29
23%

M. Agree-31
25%
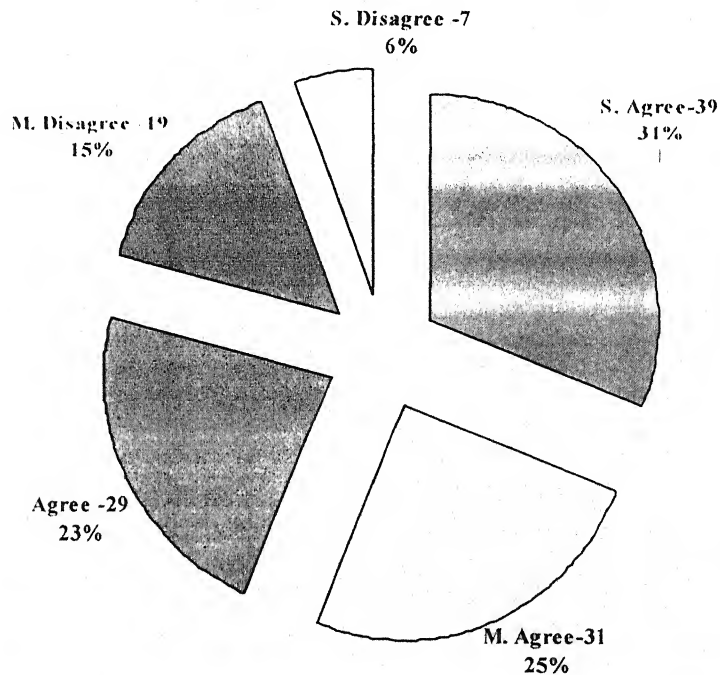
Table – 6.38
MEDICAL FACILITIES ARE SATISFACTORY LOOKING TO THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	02	01	03	07
Moderately Agree	02	12	04	05	23
Agree	10	15	11	08	44
Moderately Disagree	07	13	05	06	31
Strongly Disagree	05	08	04	03	20
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 6.761919   **NOT SIGNIFICANT**

Scale Index = 3.272

MEDICAL FACILITY ADEQUATE AS PER ORG.
GHAPH-6.38

S. Disagree -20 16% S. Agree-7 6% M. Agree-23 18% M. Disagree -31 25% Agree -44 35%
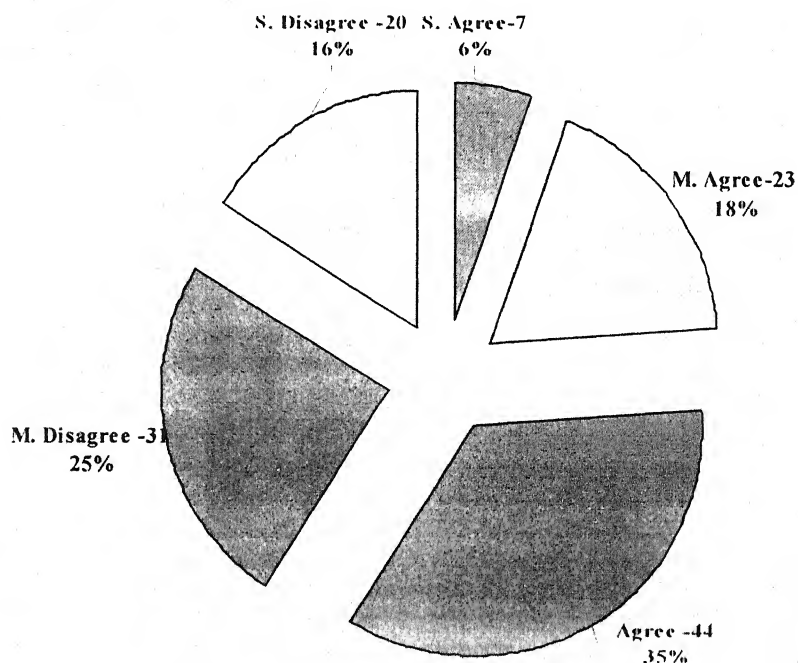
Table – 6.39

EDUCATION OF CHILDREN IS BETTER THAN OTHER COs. IN SAME INDUSTRY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	00	00	00	02	02
Moderately Agree	01	05	01	04	11
Agree	06	13	03	06	28
Moderately Disagree	08	14	11	07	40
Strongly Disagree	10	18	10	06	44
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 15.14448   **NOT SIGNIFICANT**

Scale Index = 3.904ss

CHILD'S EDUCATION BETTER THAN OTHER CO.
GHAPH-6.39

S. Agree-2 2%
M. Agree-11 9%
S. Disagree -44 35%
Agree -28 22%
M. Disagree -40 32%
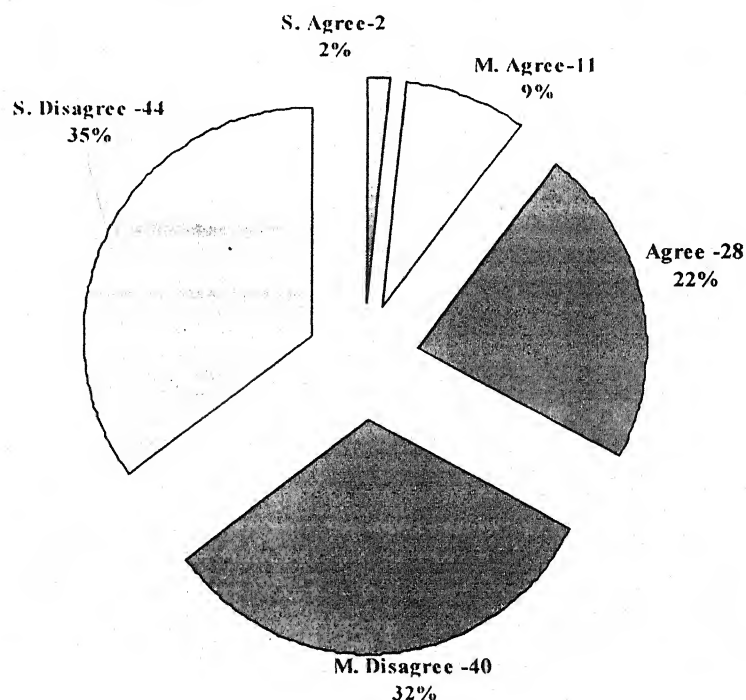
Table – 6.40

DRINKING WATER FACILITY IN YOUR ORGANISATION MAKES YOU FEEL HAPPY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	04	03	03	11
Moderately Agree	01	09	05	06	21
Agree	10	14	06	09	39
Moderately Disagree	08	11	06	04	29
Strongly Disagree	05	12	05	03	25
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE –8.693139   **NOT SIGNIFICANT**
Scale Index = 3.288

DRINKING WATER FACILITY MAKES YOU HAPPY
GHAPH-6.40

S. Disagree -25 20%
S. Agree-11 9%
M. Agree-21 17%
M. Disagree -29 23%
Agree -29 31%
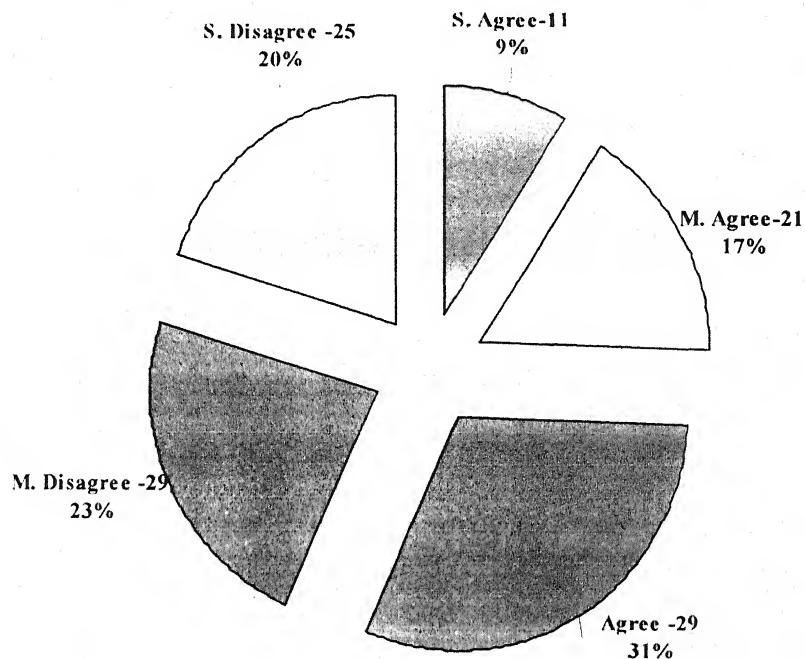
Table – 6.41

MEDICAL FACILITY ARE BETTER THAN OTHER COs. IN SAME INDUSTRY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	00	03	01	02	06
Moderately Agree	02	12	03	05	22
Agree	05	14	05	08	32
Moderately Disagree	08	12	11	07	38
Strongly Disagree	10	09	05	03	27
Total	25	50	25	25	125

D.F. – 12. Table Value at (0.05) – 21.03
Computed value of CHI SQUARE – 13.61963   **NOT SIGNIFICANT**
Scale Index = 3.464

MEDICAL FACILITY BETTER THAN OTHER ORG.
GRAPH-6.41

- S. Disagree -27 — 22%
- S. Agree-6 — 5%
- M. Agree-22 — 18%
- Agree -32 — 26%
- M. Disagree -38 — 29%
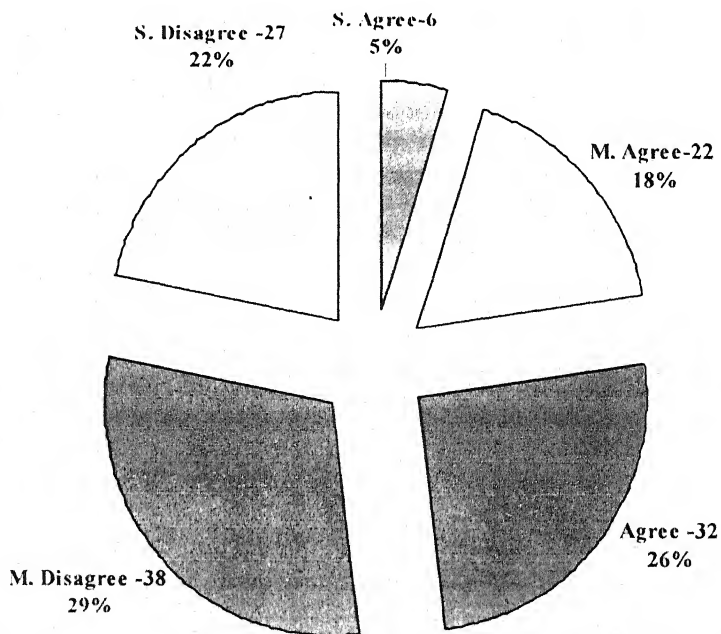
Table – 6.42

CAREER PROSPECTS OF INDIVIDUALS ARE TAKEN CARE OF BY THE ORG.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	00	00	00	01
Moderately Agree	04	08	05	03	20
Agree	08	12	05	07	32
Moderately Disagree	08	16	09	08	44
Strongly Disagree	04	14	06	07	31
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.506831   **NOT SIGNIFICANT**
Scale Index = 3.648

CAREER OF HR IS TAKEN CARE OF BY ORG.
GHAPH-6.42

S. Disagree -31 24%   S. Agree-1 1%   M. Agree-20 16%   Agree -32 25%   M. Disagree -44 34%
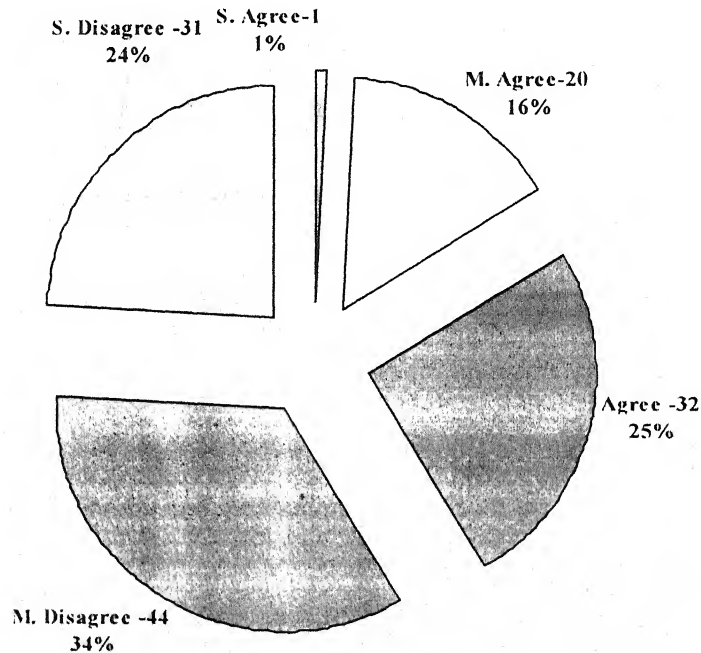
8. The respondents agree to some extent (scale index 3.34) that the self esteem needs of the individuals are given due regard in the organisation which indicates that the satisfaction level is to some extent only (Table 6.43)

9. The scale index of 3.44 means that the respondents agree to a little extent that one can think of self actualisation while continuing in this orgainsation (Table 6.44)

10. Table 6.45 shows that the respondents perceive somewhat strongly (Scale index 3.18) that the valuntary retirement schemes (VRS) are beneficial for the individuals. On the other hand, Table 6.50 shows fairly strongly (scale index 2.86) that the voluntary retirement schemes are beneficial for the organisation. If can be said that VRS are more beneficial to the organisation.

11. The respondents disagree to some extent (scale index 3.   ) that the development needs of individuals are properly fulfilled by the orgainsation (Table 6.46)

12. There is fairly strong opinion (scale index 2.84) that the safety needs of the individuals are duly regardes by the organisation (Table 6.47)

13. The scale index of 3.38 in Table 6.48 indication that the recreational facilities required by an individual are satisfactorily provided by the organisation.

14. Table 6.49 with scale index of 2.87 indicates fairly strongly that the retirement benefits are properly matched with the status of the job.

Table – 6.43

SELF ESTEEM NEEDS OF INDIVIDUALS ARE GIVEN DUE REGARD IN ORG.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	02	01	02	07
Moderately Agree	03	08	04	05	20
Agree	07	14	11	08	40
Moderately Disagree	10	17	07	06	40
Strongly Disagree	03	09	02	04	18
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 5.350198   **NOT SIGNIFICANT**
Scale Index = 3.336

SELF ESTEEM OF HR IS GIVEN DUE REGARD
GRAPH-6.43

S. Disagree -18 14% S. Agree-7 6%
M. Agree-20 16%
M. Disagree -40 32%
Agree -40 32%
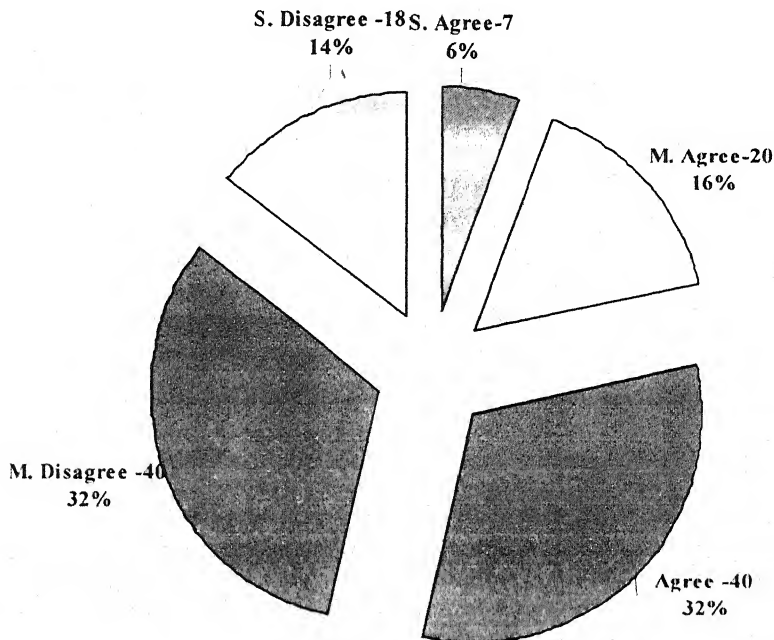
Table – 6.44

ONE CAN THINK OF SELF ACTUALISATION WHILE CONTINUING IN THE ORG.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	02	01	01	05
Moderately Agree	02	08	05	04	19
Agree	10	14	10	06	40
Moderately Disagree	08	16	06	08	38
Strongly Disagree	04	10	03	06	23
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 4.564645   **NOT SIGNIFICANT**

Scale Index = 3.44

ONE CAN THINK OF SELF ACTUALISATION
GHAPH-6.44

S. Disagree -23
18%

S. Agree-5
4%

M. Agree-19
15%

M. Disagree -38
30%

Agree -40
33%
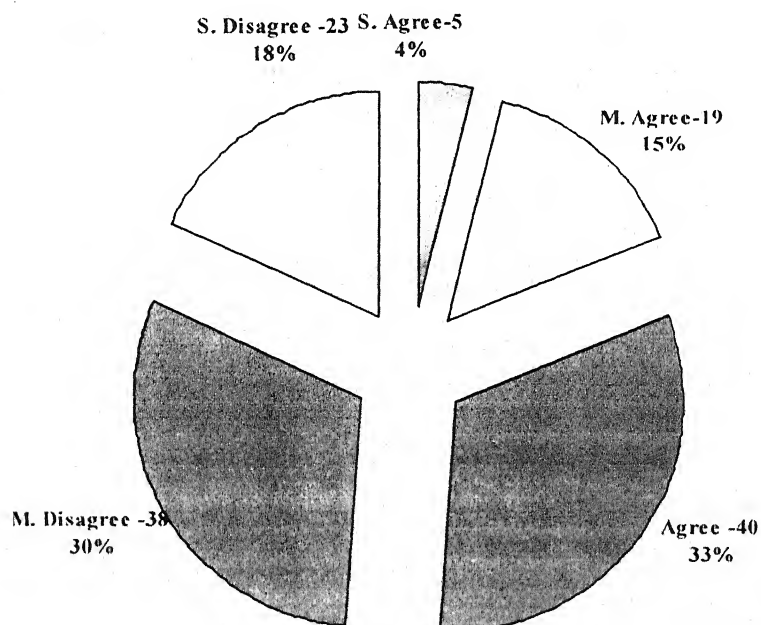
Table – 6.45

VOLUNTARY RETIREMENT SCHEMES ARE BENEFICIAL FOR THE INDIVIDUALS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	04	01	02	08
Moderately Agree	03	12	04	07	26
Agree	09	16	11	09	45
Moderately Disagree	07	10	05	05	27
Strongly Disagree	05	08	04	02	19
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 5.349340   **NOT SIGNIFICANT**
Scale Index = 3.184

VRSs ARE BENEFICIAL FOR THE INDIVIDUA
GHAPH-6.45

S. Disagree -19
15%

S. Agree-8
6%

M. Agree-26
21%

M. Disagree -27
22%

Agree -45
36%

256
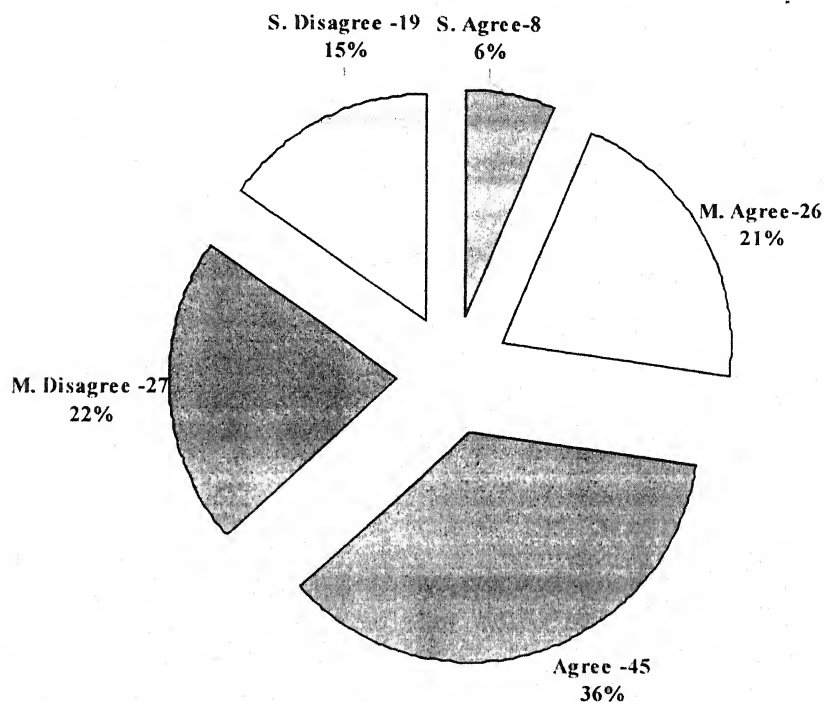
Table – 6.46

DEVELOPMENT NEEDS OF INDIVIDUALS ARE PROPERLY FULFILLED BY ORG.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	00	02	01	01	04
Moderately Agree	02	10	03	04	19
Agree	05	11	07	05	28
Moderately Disagree	13	13	09	09	44
Strongly Disagree	05	14	05	06	30
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 7.154192   **NOT SIGNIFICANT**

Scale Index = 3.616

DEVLOPMENT NEEDS OF IND. ARE FULFILLED
GHAPH-6.46
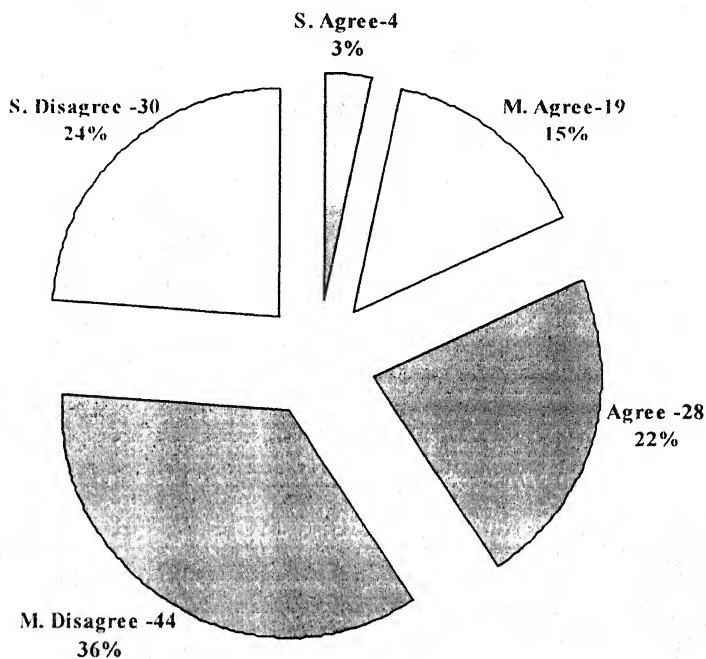
Table – 6.47

SAFETY NEEDS OF INDIVIDUAL ARE DULY REGARDED BY THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	07	01	05	16
Moderately Agree	05	14	07	08	34
Agree	10	15	10	07	42
Moderately Disagree	05	08	04	03	20
Strongly Disagree	02	06	03	02	13
Total	25	50	25	25	125

D.F. 12, Table Value at (0.05) 21.03
Computed value of CHI SQUARE 5.296888 **NOT SIGNIFICANT**
Scale Index = 2.84

SAFETY OF IND. DULY REGARDED BY ORG.
GHAPH-6.47

S. Disagree -13
10%

S. Agree-16
13%

M. Disagree -20
16%

M. Agree -34
27%

Agree -42
34%
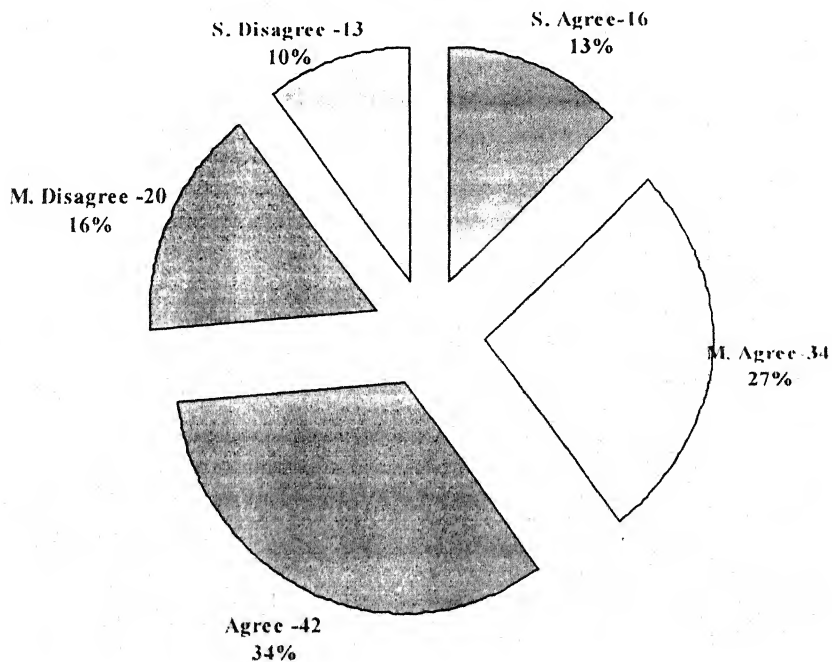
Table – 6.48

RECREATIONAL FACILITY PROVIDED BY THE ORG. IS SATISFACTORY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	00	03	00	04	07
Moderately Agree	01	10	04	06	21
Agree	09	16	10	05	40
Moderately Disagree	08	12	05	07	32
Strongly Disagree	07	09	06	03	25
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 15.62916   **NOT SIGNIFICANT**
Scale Index = 3.376

RECREATIONAL FACILITY IS SATISFACTORY
GHAPH-6.48

S. Agree-7 6%
M. Agree-21 17%
S. Disagree -25 20%
M. Disagree -32 26%
Agree -40 31%
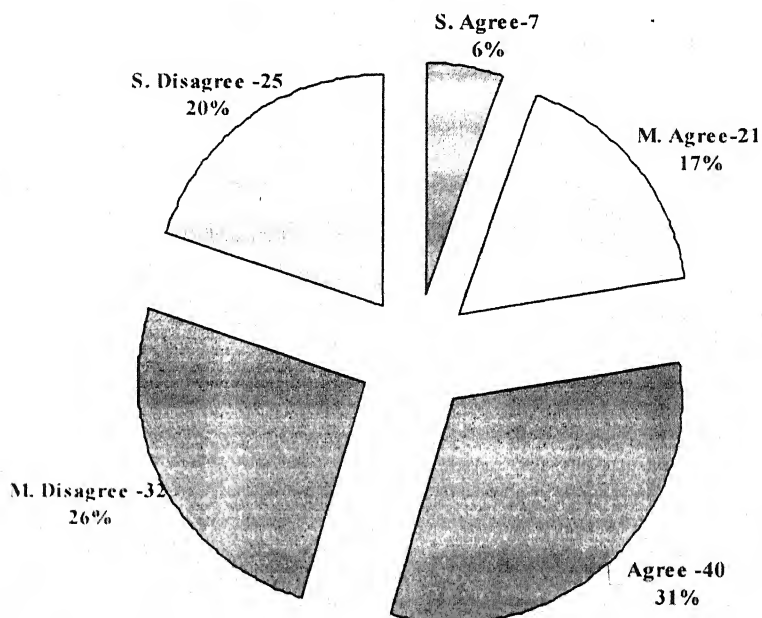
Table – 6.49

RETIREMENT BENEFITS ARE PROPERLY MATCHED WITH THE STATUS OF JOB

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	05	07	02	03	17
Moderately Agree	06	11	05	04	26
Agree	11	20	12	08	51
Moderately Disagree	02	07	03	06	18
Strongly Disagree	01	05	03	04	13
Total	25	50	25	25	125

D.F. 12, Table Value at (0.05) 21.03
Computed value of CHI SQUARE 6.911764 **NOT SIGNIFICANT**
Scale Index = 2.872

RETIREMENT BENEFITS MATCHES JOB STATUS
GHAPH-6.49

S. Disagree -13 10%
S. Agree-17 14%
M. Disagree -18 14%
M. Agree-26 21%
Agree -51 41%
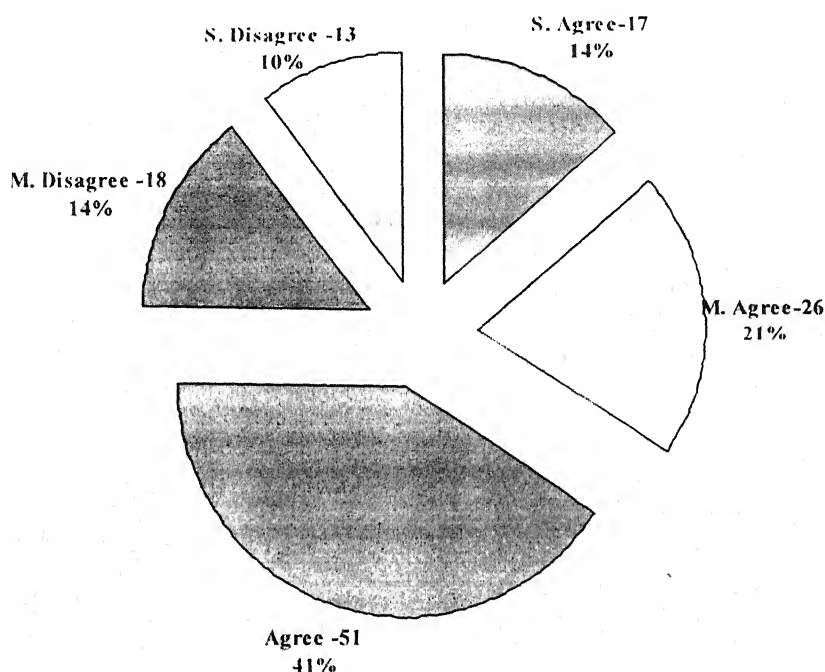
Table – 6.50

VOLUNTARY RETIREMENT SCHEMES ARE BENEFICIAL FOR THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	06	04	05	18
Moderately Agree	04	12	06	07	29
Agree	08	17	10	08	43
Moderately Disagree	06	09	03	04	22
Strongly Disagree	04	06	02	01	13
Total	25	50	25	25	125

D.F. – 12. Table Value at (0.05) – 21.03
Computed value of CHI SQUARE – 5.098610   **NOT SIGNIFICANT**
Scale Index = 2.864

VRS ARE BENEFICIAL THE ORGANISATION
GHAPH-6.50

S. Disagree -13
10%

S. Agree-18
14%

M. Disagree -22
18%

M. Agree-29
23%

Agree -43
35%
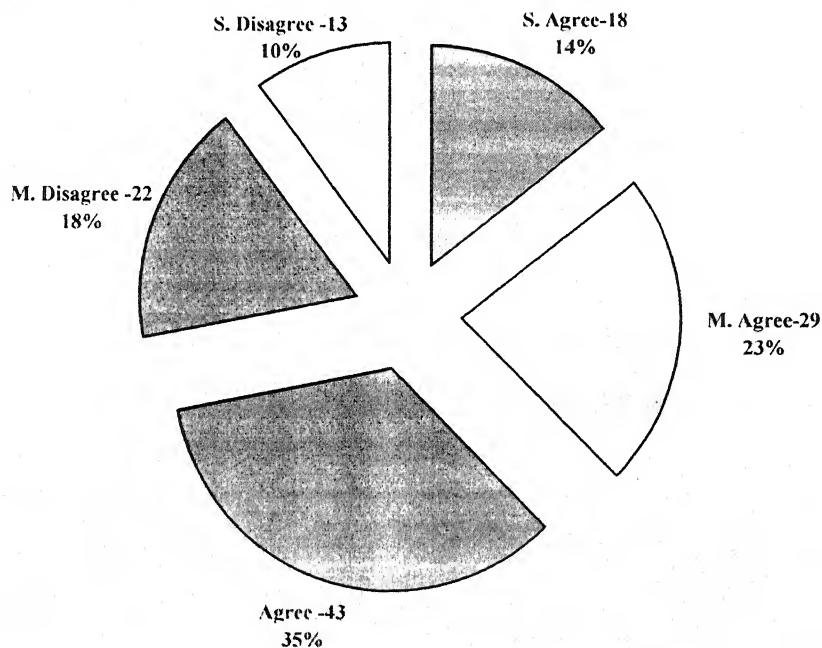
15. Table 6.51 shows a scale index of 3.7 which means that the respondents moderately disagree that if one has high ambition for individual growth than this is the right kind of organisation for him/her. This indicates that there is dis-satisfaction to a little extent regarding individual growth.

16. The scale index of 4.02 in Table 6.52 indicates fairly strong dis-agreement with the view that if one wants handsome jump in the salary by proving his/her worth on the job than he is on the right track in this organisation. The dis-satisfaction of such a level in this case is a matter of concern for the organissation as it affects the motivation level to a great extent.

17. There is fairly strong (scale 2.91) favourable perception of the respondents as shown in Table 6.53 that if one loves to work than he is a real fit in this organization..A comparison of Table 6.52 and 6.53 indicates that hard working people are appreciated but not duly rewarded monetarily.

18. The respondents agree to some extent (scale index 3.31) that drastic changes towards improvement in this organisation can be easily carried out (Table 6.54).

19. The working environment in the organisation is congenial for creative work is the opinion of the respondent. The scale index of 3.14 shown in Table 6.55 means that the respondents agree to some extent on this aspect.

Table – 6.51

RIGHT KIND OF ORGANISATION FOR INDIVIDUAL GROWTH

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	01	00	01	03
Moderately Agree	03	07	05	03	18
Agree	06	11	03	05	25
Moderately Disagree	10	17	10	09	46
Strongly Disagree	05	14	07	07	33
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 3.751515   **NOT SIGNIFICANT**
Scale Index = 3.704

RIGHT KIND OF ORG. FOR INDIVIDUAL GROWTH
GHAPH-6.51

S. Agree-3
2%

M. Agree-18
14%

S. Disagree -33
26%

Agree -25
20%
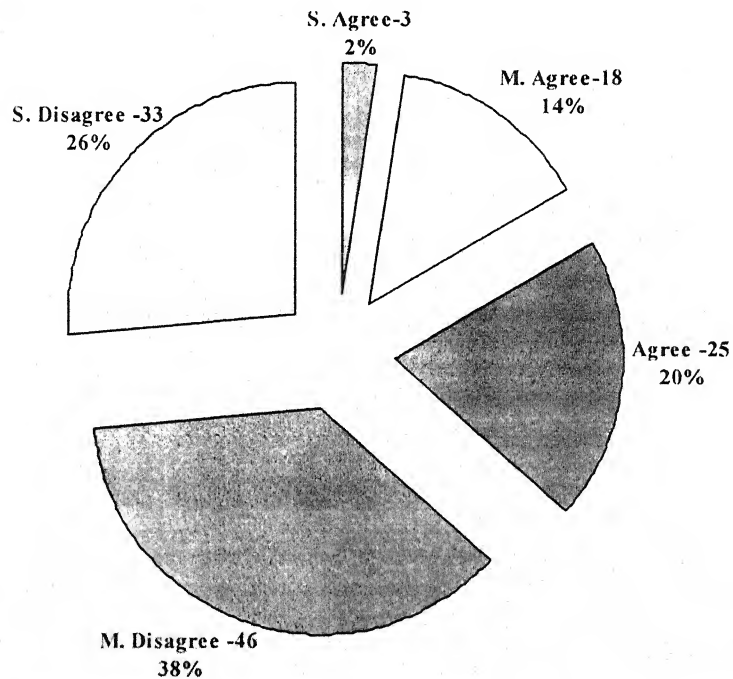
M. Disagree -46
38%

Table – 6.52

HANDSOME JUMP IN SALARY FOR WORTHY PEOPLE IN THE ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	00	00	00	01
Moderately Agree	03	02	03	01	09
Agree	06	07	08	04	25
Moderately Disagree	09	15	09	09	42
Strongly Disagree	06	26	05	11	48
Total	25	50	25	25	125

D.F. 12, Table Value at (0.05) 21.03
Computed value of CHI SQUARE – 16.25476 **NOT SIGNIFICANT**
Scale Index = 4.016

HANDSOME JUMP IN SALARY FOR WORTHY HR
GHAPH-6.52

S. Agree-1
1%

M. Agree-9
7%

Agree -25
20%

S. Disagree -48
38%
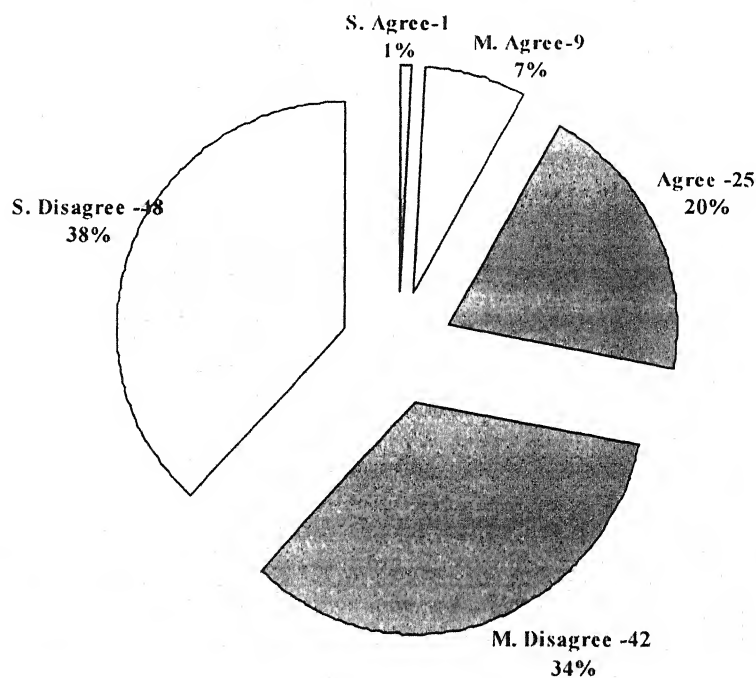
M. Disagree -42
34%

Table – 6.53

ONE WHO LOVES WORK IS A REAL FIT IN THIS ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	03	07	02	14
Moderately Agree	07	11	07	07	32
Agree	10	16	09	09	44
Moderately Disagree	04	11	01	05	21
Strongly Disagree	02	9	01	02	14
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 15.78767   **NOT SIGNIFICANT**

Scale Index = 2.912

ONE WHO LOVRS WORK IS REAL FIT IN ORG.
GHAPH-6.53
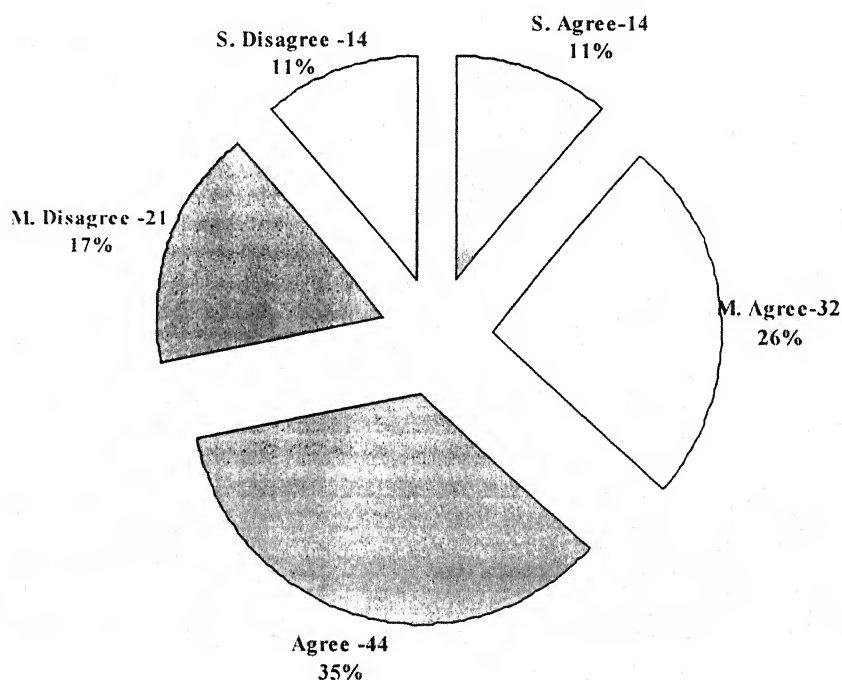
Table – 6.54

DRASTIC CHANGES TOWARDES IMPROVEMENT CAN BE EASILY MADE IN THE CO.

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	02	02	01	08
Moderately Agree	06	10	04	03	23
Agree	11	14	10	06	41
Moderately Disagree	03	12	05	08	28
Strongly Disagree	02	12	04	7	25
Total	25	50	25	25	125

D.F. – 12, Table Value at (0.05) – 21.03
Computed value of CHI SQUARE – 10.98026   **NOT SIGNIFICANT**
Scale Index = 3.312

DRASTIC CHANGES CAN BE MADE IN THE ORG.
GHAPH-6.54

S. Agree-8 6%
M. Agree-23 18%
Agree -41 34%
M. Disagree -28 22%
S. Disagree -25 20%
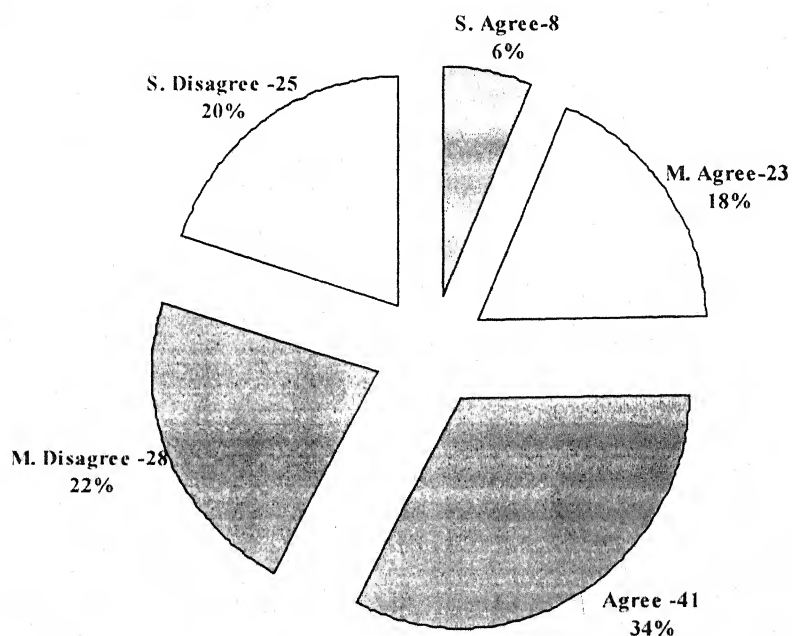
Table – 6.55

WORKING ENVIRONMENT IN THIS ORG. IS CONGENIALY FOR CREATIVE WORK

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	03	04	02	01	10
Moderately Agree	05	09	06	04	24
Agree	10	17	12	06	45
Moderately Disagree	05	12	04	09	30
Strongly Disagree	02	08	01	05	16
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 9.354166   **NOT SIGNIFICANT**
Scale Index = 3.144

ENVIRN IS CONGENIAL FOR CREATIVE WORK
GHAPH-6.55

S. Disagree -16
13%

S. Agree-10
8%

M. Agree-23
19%

M. Disagree -30
24%

Agree -45
36%
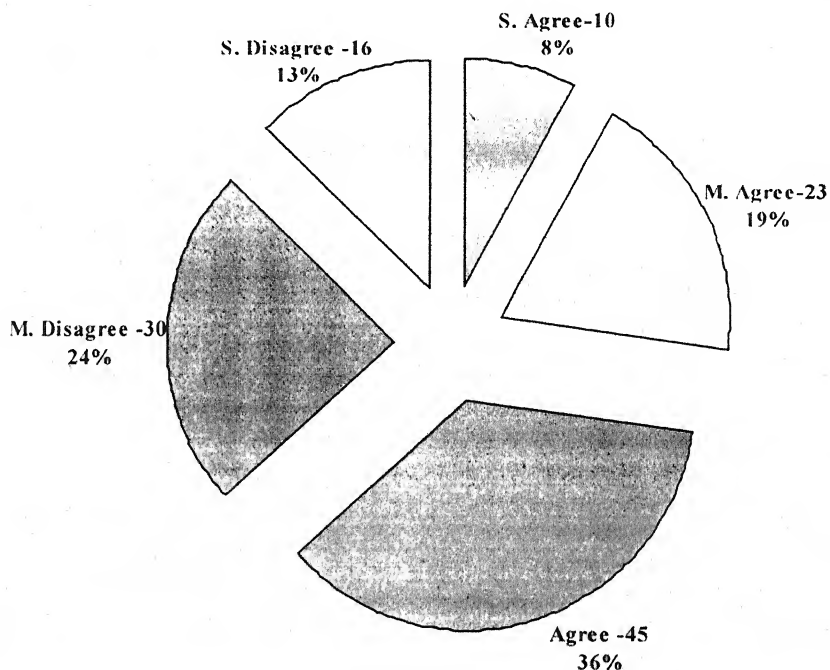
20. The respondents have a fairly strong opinion in favour of Japanese style of management particularly the life time employment concept as is evident from the scale index of 2.46 shown in Table 6.56 Table 6.57 further supports this view as the scale index is again 2.46 regarding the statement that the American approach of contractual appointment is not suitable for Indian condition. This means that the concept of job security weights heavily, hence any policy which is against this will not be workable in Indian conditions.

21. The scale index 3.17 indicates that the respondent agree to some extent that if an individual jumps in varied organisations than he/she would be jack of all and master of none (Table 6.58). Further this aspect is strengthened by some what more strong opinion (scale index 3.07) that it is really enjoyable to work in the same organisation throughout one's life (Table 6.59). This indicates that people prefer to remain in the same organisation as compared to jumping from one to another provided they are satisfied.

22. The respondents have almost equally divided opinion as the scale index is 3.55 that this is a kind of orgainsation where one can spend his her whole life (Table 6.60). But the respondents agree to some extent (scale index 3.3) that one can hope for being satisfied by retiring this organisation (Table 6.61). This means that the satisfaction level is low which must be taken seriously by the organisations.

Table – 6.56
JAPANESE LIFE TIME EMPLOYMENT IS APPRECIABLE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	05	15	04	07	31
Moderately Agree	06	14	07	08	35
Agree	10	13	09	06	38
Moderately Disagree	02	04	03	03	12
Strongly Disagree	02	04	02	01	09
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 4.562501　　**NOT SIGNIFICANT**
Scale Index = 2.464

JAPANESH LIFE TIME EMPLOYMENT IS GOOD
GHAPH-6.56
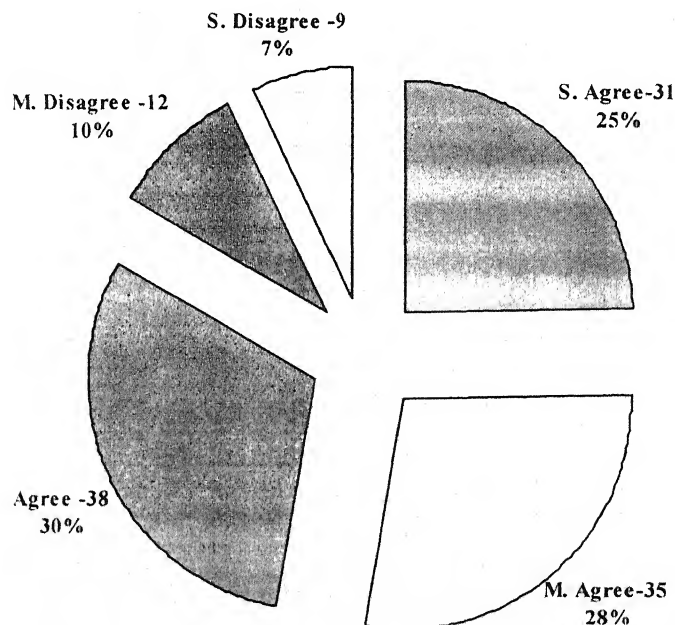
Table – 6.57

AMERICANS CONTRACTUAL APPOINMENT SYSTEM IS NOT SUITABLE IN INDIA

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	07	14	03	08	32
Moderately Agree	04	12	09	09	34
Agree	08	14	09	05	36
Moderately Disagree	04	06	03	02	15
Strongly Disagree	02	04	01	01	08
Total	25	50	25	25	125

D.F. = 12. Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 7.778594   **NOT SIGNIFICANT**

Scale Index = 2.464

AMERICAN CONTRACTUAL JOB ISNT SUITABLE
GHAPH-6.57
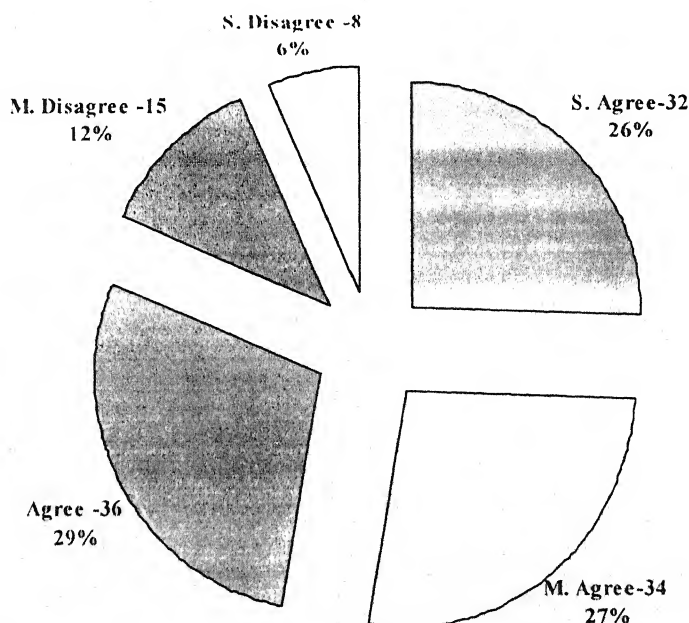
Table – 6.58

EXPERIENCE IN VARIED ORGANISATIONS MAKES INDIVIDUAL JACK OF ALL

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	04	03	02	11
Moderately Agree	05	10	08	06	29
Agree	05	11	07	09	32
Moderately Disagree	08	15	05	06	34
Strongly Disagree	05	10	02	02	19
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 6.976501   **NOT SIGNIFICANT**
Scale Index = 3.168

WORKING VARIED ORG. MAKE JACK OF ALL
GHAPH-6.58
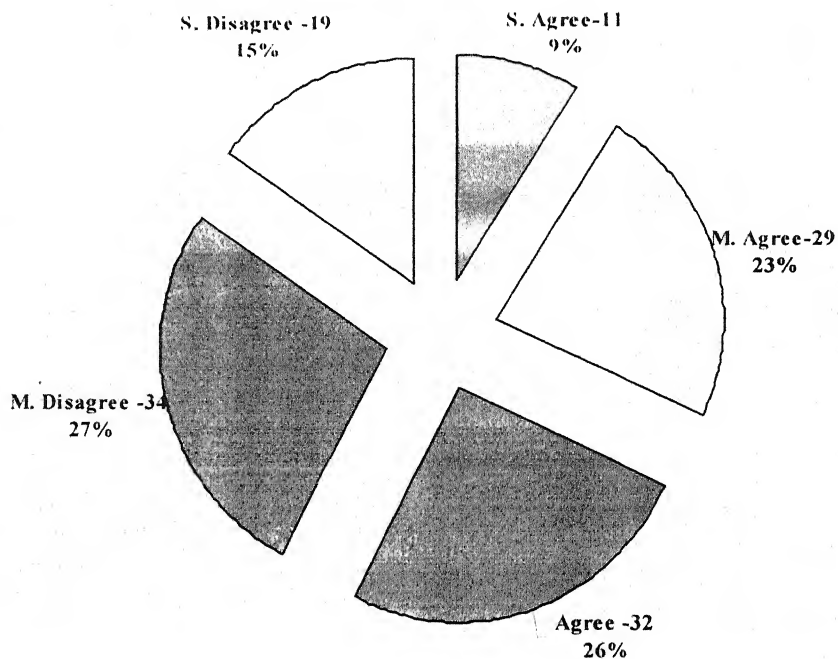
Table – 6.59

ENJOYABLE TO WORK IN THE SAME ORGANIASATION
THROUGHOUT ONE'S LIFE

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	05	06	02	04	17
Moderately Agree	06	11	05	07	29
Agree	03	11	07	05	26
Moderately Disagree	07	13	08	06	34
Strongly Disagree	04	09	03	03	19
Total	25	50	25	25	125

D.F. – 12, Table Value at (0.05) – 21.03
Computed value of CHI SQUARE – 4.465615   **NOT SIGNIFICANT**
Scale Index – 3.072

ENJOYABLE TO WORK IN SAME ORG. FOR LIFE
GHAPH-6.59

S. Disagree -19
15%

S. Agree-17
14%

M. Agree-29
23%

M. Disagree -34
27%

Agree -26
21%
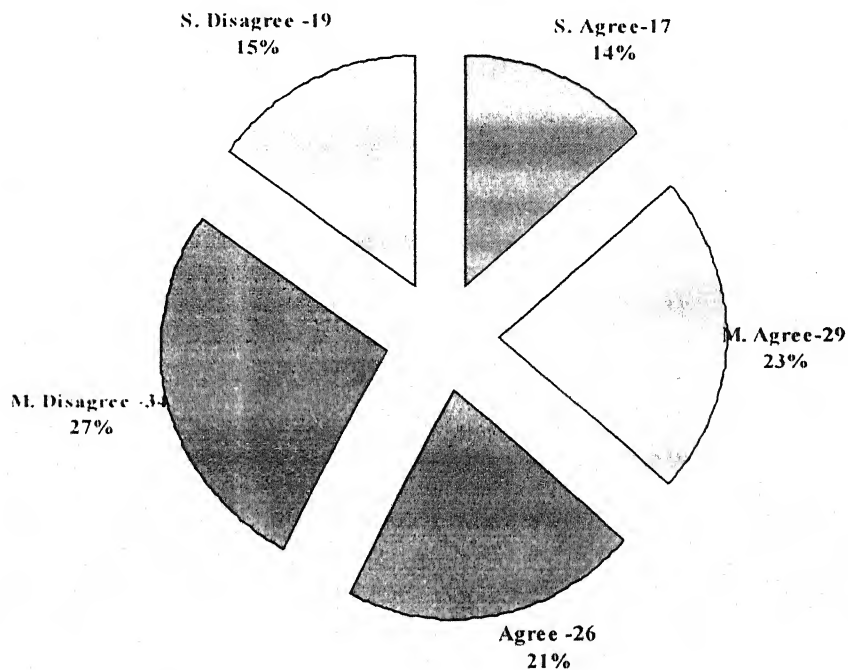
Table – 6.60

ONE CAN SPEND HIS/HER WHOLE LIFE IN THIS KIND OF ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	01	03	01	01	06
Moderately Agree	02	07	07	04	20
Agree	05	12	05	05	27
Moderately Disagree	10	10	08	10	43
Strongly Disagree	07	13	04	05	29
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 5.712498   **NOT SIGNIFICANT**

Scale Index = 3.552

ONE CAN SPEND WHOLE LIFE IN THIS ORG.
GRAPH-6.60

S. Agree-6
5%

M. Agree-20
16%

S. Disagree -29
23%

Agree -27
22%
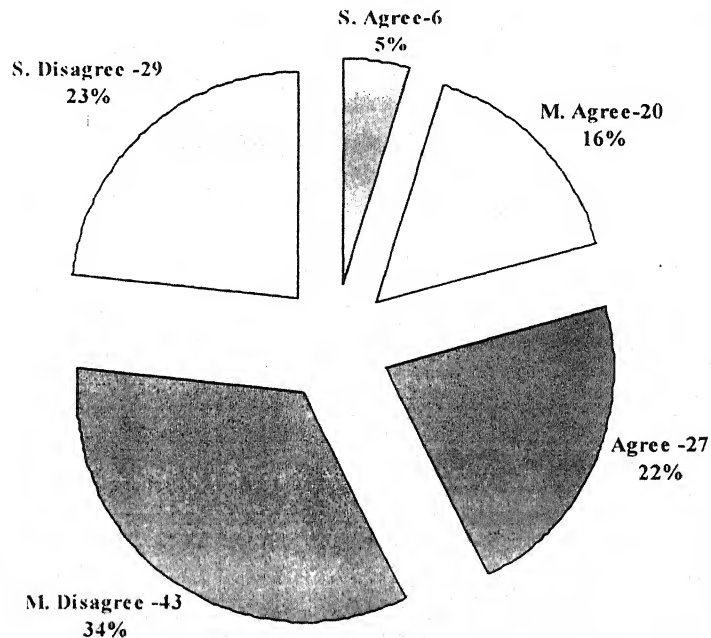
M. Disagree -43
34%

Table – 6.61

RETIRING FROM THIS ORGANISATION CAN BE SATISFACTORY

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Strongly Agree	02	04	02	03	11
Moderately Agree	05	08	04	05	22
Agree	08	11	07	08	34
Moderately Disagree	06	15	07	07	35
Strongly Disagree	04	12	05	02	23
Total	25	50	25	25	125

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 4.211902   **NOT SIGNIFICANT**
Scale Index = 3.296

RETIRING FROM THIS ORG. CAN SATISFY
GHAPH-6.61

S. Disagree -23
18%

S. Agree-11
9%

M. Agree-22
18%

M. Disagree -35
28%

Agree -34
27%
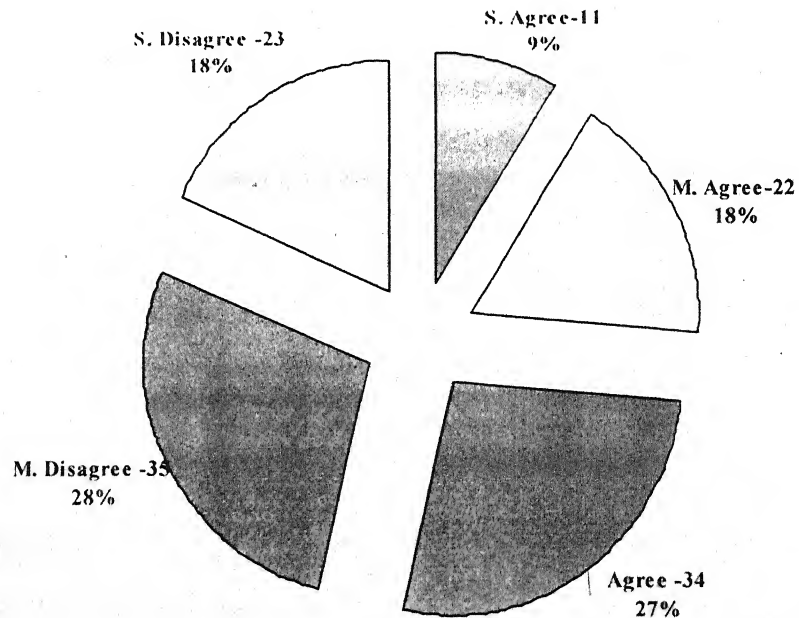
MAJOR FINDINGS

1. The organisation intends to retain HR while acquiring, deploying, and developing them. The organisation provides other facilities like housing, medical, transport, LTC, canteen, recreation etc. also to retain the existing HR. In turn, the organization gets the benefites like, puncutuality, healthy human resources, etc. This is applicable for all the organisations as no chi-square value is significant. The combined scale index of 2.66 shown in the summary Table 6.62 indicates fairly strongly the intention of the organisation to retain human resource.

2. The human resource on an average prefer to remain in the same organisation provided they are satisfied by the organisational efforts to retain them.

3. The human resource prefer to retire from an orgainsation which is known to give good treatment to the retired human resource.

4. The human resource satisfaction level can be viewed by the combined scale index of 3.3 app. Which can be termed as 'satisfied to a little extent'. The important feature is that there is no significant difference between different sectors as Chi- square value is not significant in any of the variables.

5. The concept of life time employment followed by the Japanese is considered to be more suitable as compared to the Americans contractual appointment.

From the above it can be concluded that the hypothesis ' there exists a positive relationship between the decision of the Human Resource to remain in the organisation and the efforts of the organisation in this regard' is accepted.

CHAPTER-VII

CONCLUSIONS:

- *Summary of major findings and Recommendations*

CHAPTER VII

SUMMARY OF MAJOR FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The definition of human resource accounting which has been generally accepted by the accountants is given by the American Accounting Association[19] Committee Report 1973. They have defined human resource accounting as " the process of indentifying, measuring and communicating information about human resource to decision maker". This may be called as a broad concept of human resource accounting. Many other definitions are given by different scholars which in one way of the other says that Human Resource Accounting is the measurement of cost and value of people for the organisation.

It may be noted that contributions discussed in this chapter are not exhaustive list of scholars in the field of human resource accounting, but an attempt has been to incorporate the major contributions.

The concept of Human Resource Accounting is still in the developing stage and there is a lot of thinking being done at different levels. Many scholars have contributed by way of developing models to measure the cost/value of Human Resource. These models can be classified in the following categories :

I.   **Monetary Models**

    A. Cost Based Models

    B. Value Based Models

II.   **Non-Monetary Model**

III.   **Statistical Based Models**

I. Monetary Models

The models which incorporate the monetary aspect are called monetary models.

A. Cost Based Models

There are many cost based models which are given hereunder :

1. Acquisition cost method

Acquisition Cost or Historical Cost or Outlay Cost or Original Cost refers to the expenditure incurred by the Organisation in recruiting, hiring, training, familiarisation and developing human resources. It is just like the concept of original cost for other assets. The acquisition cost is capitalised and written off over the period for which the employee remains with the orgainsation. If the human asset leaves the organisation permaturely, the whole of the amount not written off is fully charged from the income of the current year. If the useful life is exceeds the original estimates, revisions are made in the amortisation schedule.

This model was first developed by william C. pyle assisted by R. Lee Brummet and Eric G. flamholtz and was implemented in R.G. Barry corproation'. a leisure footwear manufacturer. columbus, ohio (USA) in 1969 on an experimental basis which was discontinued later.

This method has been development by Eric G. Plamholtz[2] in 1973 on the basis of the concept first suggested by Rensis Likert[3]. Under this method value of an individual to an organisation is measured by the amount that the organisation would have to pay to replace him. There is a dual notion of replacement cost i.e.

positional and personal .The former refers to the cost incurred to replace some one with a substitute capable of performing to the same degree in the same position while the later refers to the cost of replacing a person with a functionally equivalent substitute rather than the cost of replacing him with the best available substitute.

Hekimian and Jones[*] proposed this method and defined opportunity cost as the value of an asset when there is an alternative use of it. . They suggested a competitive bidding process by different divisions for the scarce employees in an organisation. The divisions bid amongst themselves for the services of the employee and he is allotted to the division making the highest bid. The successful bid price become part of the division's investment base.

Standard costs of recruitment, placing, training and developing per grade of employee are calculated and made up to date every year.The standard costs so arrived at for all human resources are terated as the value of human resources for accounting purposes.

It provides easy implementation and avoids complications of replacement cost method. The variances between actual and standard can be analysed and forms a basis for control. But the limitations of replacement cost also applies to standard cost method.

The capitalised historical cost of investment in human resources is converted into current purchasing power of money with the help of price index number's. if the index doubles than the value of human resource also doubles. The converted value becomes the value of human resource for amortisation in rest of the years. The increase or decrease is dealt in the same manner as in the case of replacement cost method.

HUMAN RESOURCE ACCOUNTING PRACTICES

Human Resource Accounting practices Regarding Treatment of cost Incurred on Acquisition and Development of Human Resource.

Human Resource Accounting practices Regarding valuation of Human Resource in Inida, USA, UK, and Australia.

HUMAN RESOURCE ACCOUNTING PRACTICES REGARDING VALUATION

The Human Resource Accounting started in the early 1960's and the credit for the same goes to United Sates of America (USA). The "Milwaukee Braves,Inc.2"Which Was incorporated in 1962 to acquire "Milwaukee Braves Baseball Club" decided to treat in 1963 its investment in future team development as an asset to be capitalised and amoritised over its expected useful life rather than as an expense in the period incurred.

In united kingdom (UK) disclosures about human resource information are embodied in the statutory requirement governing company account. The relevant and important point are given blew:

Companies Act, 1967 (Section 18) requires for companies which employ 100 or more people to state the average number of UK employees and their aggregate remuneration during the year in the director's report.

The code of Conduct for Companies with interest in South Africa (Cmnd.7233) requested that the annual reports should provide information about employment

practices of subsidiaries and associated companies with respect to black workers in South Africa.

Companies (No. 2) Bill of 1981 Schedule I. Part III Section 56 requiring the separate disclosure of wages and salaries, social security costs and other pension costs.

Health and safety at work Act 1974 provides for regulations requiring companies to disclose information in the directors, report about the arrangement for securing the health, safety and welfare of employees at work place.

HUMAN RESOURCE COST AND VALUE

This Chapter provides an analysis of the results to understand the perceptions of Human Resource regarding Human Resource cost and value. Twenty statements related to human resource cost and value were asked from the respondents were asked to tick mark the appropriate number ranging from 1 to 5 on a five point scale, viz.

1. Strongly agree
2. Moderately agree
3. Agree
4. Moderately disagree
5. Strongly disagree

The data generated from these statements has been classified into four sectors as explained in Chapter 1 and Chi-square test has been used to lest whether there is significant difference of opinion between the respondents of four sectors or not.

The scales index (mean) has been calculated to find the average score on five point scale to make the analysis easier.

The organisation intends to retain HR and the benefits from the human resource to the organisation is for a long period than a year.

The profit and loss account and the Balance Sheet based on historical cost and matching of cost Balance Sheet based on historical cost and matching of cost and revenue principle can not show a true and fair view unless cost aspect of HR is duly incorporated. The benefits from HR will accrue for a long period of time, hence the cost incurred on HR: acquisition, development and retention should be properly capitalised and only duly allocated portion should be incorporated in the Profit and Loss account. The capitalised portion of HR cost should be shown in the Balance Sheet on the basis of expected future benefits as we show assets purchased under hire purchase scheme in the Balance Sheet.

The value of Human Resource is purely related to the contributions made by the Human Resource for the orgainsation which is more relevant for Management Accounting instead of financial accounting based on historical cost and matching of cost and revenue.

The replacement cost and opportunity cost of Human Resource is relevant for Human Resource turnover and retention decisions respectively and should be used for taking managerial decisions in this regard.

The analysis of the results interpreted above supports the hypotheses number one, four, five and six given in chapter one. Hence all these hypotheses are accepted which can be summarised as the organisation intends to retain the existing human resource until the useful service life of human resource and hence the acquisition,

development and retention costs of human resource does not comply the matching of cost and revenue principle of accounting as per the current accounting treatment practices. Chapter three reveals that all the costs related to the human resource are fully debited to the current year income statement in the sample organisations.

HUMAN RESOURCE DEVELOPMENT

The training and development of human resource is an important activity in any organisation. It has become essential as all types of jobs in the organisation generally require some type of training and development for efficient and effective performance.

"Training is the act of increasing the knowledge and skills of an employee for doing a particular job"[1]. Training is a continuous process which improves the performance of an employee. It includes learning of techniques which are required for better performance of defined tasks.

Human Resource Development is the process of increasing the knowledge, skills and capabilities of the people in the organisation. It means growth of an individual in all respects. Development of human resource includes " all those activities and programmes, which have substantial influence on changing the capacity of the individual to perform his present assignment better and in so doing are likely to increase his potential for future management assignments"[2].

This chapter analyses the perceptions of the respondents regarding various aspects of training and development in organisations. The respondents were asked several questions and that the data generated form these questions has been classified into four sectors as explained in chapter 1 and Chi-square test has been used to test whether there is significant difference of opinion between the respondents of four

sectors or not. The scale index (mean) has been calculated to find the average score on five point scale to make the analysis easier.

HUMAN RESOURCE RETENTION

This chapter deals with the different aspects of retention of human resource in the organisation broadly classified under two heads namely.

I.   Organisational efforts to retain human resource.

II.   Degree of satisfaction of human resource.

Part –IV of the questionnaire deals with the former classification and Part-V deals with the latter. The results generated through Part IV and V of the questionnaire have been analysed in this chapter. Thirty statement in Part-IV and thirty one in Part-V, were asked from the respondents. The respondents were asked (both in Part-IV and V) to tick mark the appropriate number ranging from 1 to 5 on a five point viz.

1. Strongly agree

2. Moderately agree

3. Agree

4. Moderately disagree

5. Strongly disagree

The sample classification and the statistical technique used has been explained in chapter one which is applicable for this chapter also.

A. SUMMARY OF MAJOR FINDINGS

The study has classified various aspects pertaining to Human Resource into three broad Categories:

I.   Acquisition of Human Resource

II.   Development of Human Resource

III.   Retention of Human Resource

The information pertaining to these findings are shown at various places in the thesis. In total 192 tables and 154 graphs are made to make the presentation better.

I.   ACQUISITION OF HUMAN RESOURCE

1. The accounting practices of the sample organisations reveal that almost all the organisations debit fully to the profit and loss account the cost incurred on acquisition and development of Human Resource.

2. The criteria for showing assets in the Balance Sheet is long term benefits rather than ownership of the asset.

3. Human Resource serves the organisation for a long time hence it makes a case for showing it in the Balance Sheet and the cost of acquisition should be allocated over the period of benefits.

4. The profit and loss Account and the Balance Sheet based on historical cost and matching of cost and revenue principle can not show a true and fair view unless cost aspect of Human Resource is duly incorporated.

5. The salaries and other compensation paid to the Human Resource in an organisation is actually the cost incurred by the organisation and value to the individual from his point of view. Whereas Value of Human Resource for the organisation is the contributions made by him/her for the organisation which is useful for management accounting.

6. Replacement cost of Human Resource is useful while taking Human Resource turnover decisions and opportunity cost for Human Resource retention decisions.

7. The service contract between the employee and the organisation binds both the parties and the liability to pay arises at that time, hence Human Resource should be shown as Assets like the ones purchased on hire purchase basis are being shown in the Balance Sheet. Further a proper allocation of acquisition, development and retention cost incurred on Human Resource should be charged from the profit and loss account and the balance be transferred to the Balance Sheet.

II. DEVELOPMENT OF HUMAN RESOURCE

1. The facilities regarding training and development of Human Resource is satisfactory but identification of training and development needs is to some extent subjective rather than systematic and objective.

2. The skills of Human Resource improve after attending training and /or development programme. Approximately 29% improvement was found in the 20 skills tested before and after attending training and development programme. The combined scale index (Mean) increased from 3.2484 to 4.1908 which is about 29%.

3. The respondents are fairly satisfied with the training and development programme attended and the rating is fairly high with the combined scale index of 1.9152 which is closer to moderately agree with no significant difference between different sectors.

4. The support of top management in training and development programmes is 'to some extent only' which is reflected in the combined scale index of 3.3 involving twelve variables.

5. The duration of benefits from updation, learning, training and development programmes in terms of increase in productivity is generally for a period more than a year and on an average it is between two three years.

III. RETENTION OF HUMAN RESOURCE

1. The organisation intends to retain Human Resource while acquiring, deploying and development them. the organisation provides. Other facilities like housing, medical, transport, LTC, canteen, recreation, etc. also to retain the existing Human Resource. In turn, the organisation gets the benefits like, punctuality, healthy human resource, etc.

2. The Human Resource satisfaction level can be viewed by the combined scale index of 3.3 app. Which can be termed as 'satisfied to a little extent' The important feature is that there is no significant difference between different sectors as Chi-square value is not significant in any of the variables.

B. CONCLUSION

1. The organisation intends to retain Human Resource and the Human Resource responds to the efforts of the organisation in this regard. Hence it can be concluded that Human Resource stays in the organisation for a relatively longer period provided he/she is satisfied with the compensation and other facilities available to him.

2. Training and Development programmes results in increase in productivity which is relatively stable and last for a period more than a year. hance the cost incurred on these programmes should be capitalised and allocated over a period of benefits received.

3. The profit and loss Account and the Balance Sheet based on historical cost and matching of cost and revenue principle can not show a true and fair view unless cost aspect of Human Resource is duly incorporated. The benefits from Human Resource will accrue for a long period of time, hence the cost incurred on Human Resource: acquisition, development and retention should be properly capitalised and only duly allocated portion should be properly capitalised and only duly allocated portion should be incorporated in the profit and loss account. The capitalised portion of Human Resource cost should be shown in the balance sheet on the basis of expected future benefits as we show assets purchased under hire pruchease scheme in the Balance Sheet.

4. The value of Human Resource is purely related to the contributions made by the Human Resource for the organisation which is more relevant for Management Accounting instead of financial accounting based on historical cost and matching of cost and revenue. Hence it is of no practical relevance to use cost as a surrogate measure of value of Human Resource for showing it as additional information which some of the organisation are doing.

5. The replacement cost and opportunity cost of Human Resource is relevant for Human Resource turnover and retention decisions respectively.

6. Acquision cost or Historical cost or outlay cost or original cost refers to the expenditure incurred by the organization in recruiting hiring, training, familiarization and developing Human Resources.

7. The acqusion cost is capitalised and written off over the period for which the employee remains with the organization.

8. The descriptive information containing statistics about Human Resources are collected, used and presented under statistical based method of Human Resource.

9. The replacement cost and opportunity cost of Human Resource is relevant for Human Resource turnover and retention decisions respectively.

10. The value of Human Resource is purely related to the contribution made by the organization which is more relevant for management accounting instead of financial accounting based on Historical cost and Matching of cost revenue.

C. RECOMMENDATIONS

1. The institute of Chartered Accountants of India (ICAI) and the Government of India should take initiative by making regulatory provisions regarding Human Resource Accounting and may take into consideration the recommendation of the study given below. The Academia may also investigate further dimensions of this problem in addition to absorbing the recommendations which are relevant to ICAI and the Government of India from their academic point of view.

2. There should be a separate accounting head of Human Resource Asset in the Balance Sheet and sub heads of acquisition cost, development cost and retention cost and all the costs pertaining to the Human Resource should be covered.

3. The allocated portion of acquisition, development and retention cost should be taken to the profit and loss account of the current year.

4. The value of Human Resource is purely related to the contributions made by the Human Resource for the organisation which is more relevant for management Accounting instead of financial accounting based on historical cost and matching of cost and revenue. Hence it is of no practical relevance to use cost as a surrogate measure of value of Human Resource for showing it as additional information which some of the organisations are doing.

5. The replacement cost and opportunity cost of Human Resource is relevant for Human Resource turnover and retention Disions respectively and should be used for taking managerial decisions in this regard.

6. Human Resource accounting and employees turnover may basis for assessing employees relations and working relations in the industries.

7. The companies employees turnover and HR development expenditure may be used in calculating credit rating of the company which is used by financial institutions investors employees and public at large.

8. The BHEL should be adopting the following procedure in calculating the value of human asset. Information on gradewise, agewise breakup from all units are collected and consolidated as a whole.

9. A career chart is prepared based on the information relating to human asset. In this connection, for each grade & age group, retirement plan is computed i.e. the number of persons retiring in each grade at each age group.

10. The Mathura Refinery on the one hand has stepped up payment to its employees and the social hands and on the other, the employees have given their best to improve productivity.

FUTURE AREAS OF RESEARCH

Research is a continuous ongoing process and one researcher can only add a drop in the ocean. Some of the possible areas of further research may be as follows.

1. Measurement of value of Human Resource by developing a model based on the contributions made by the Human Resource for the orgainsation which they are serving.

2. Replication of this study in organisations following purely Japanese style of management particularly the life time employment aspect.

3. Replication of this study in organisation following purely American Style of management particularly the contractual appointment aspect.

APPENDIX – I

Table – 1.1A
AGE OF RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 31 years	24	26	21	08	79
Between 31 & 41 years	35	25	18	09	87
Between 41 & 51 years	12	10	07	06	35
Between 51 & 60 years	04	09	04	02	19
More than 60 years	00	05	00	00	05
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 16.35815   **NOT SIGNIFICANT**
Scale Index = 2.04

AGE OF THE RESPONDENTS (IN YEAR)
GHAPH-1.1A
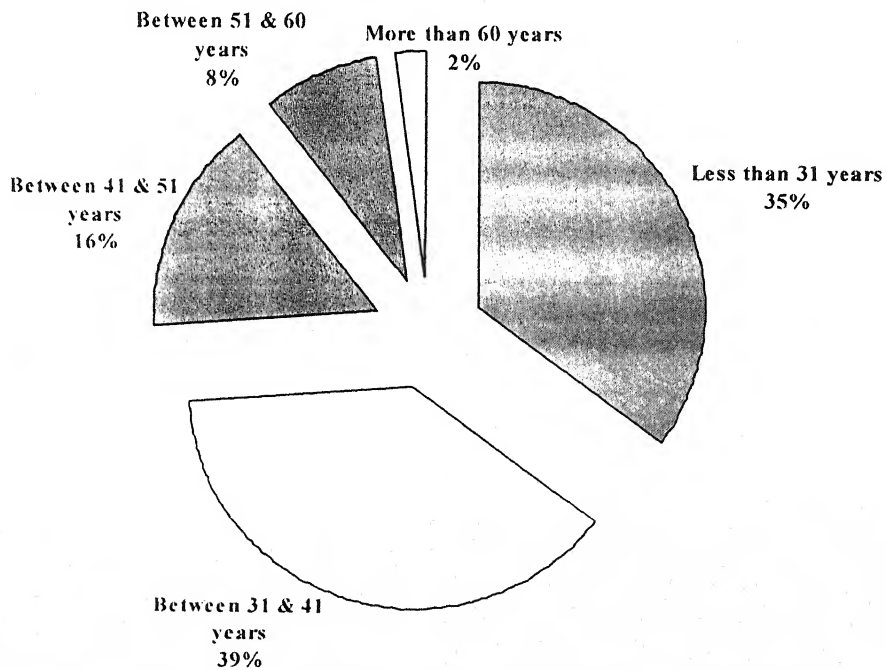
Table – 1.1B
AGE OF RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 31 years	12	15	12	06	45
Between 31 & 41 years	10	14	08	07	39
Between 41 & 51 years	02	10	04	05	21
Between 51 & 60 years	01	07	01	07	16
More than 60 years	00	04	00	00	04
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12. Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 19.58459   **NOT SIGNIFICANT**
Scale Index = 2.16

AGE OF THE RESPONDENTS (IN YEAR)
GHAPH-1.1B

Between 51 & 60 years- 16 13%
More than 60 years -4 3%
Less than 31 years -45 36%
Between 41 & 51 years 21 17%
Between 31 & 41 years - 39 31%

291
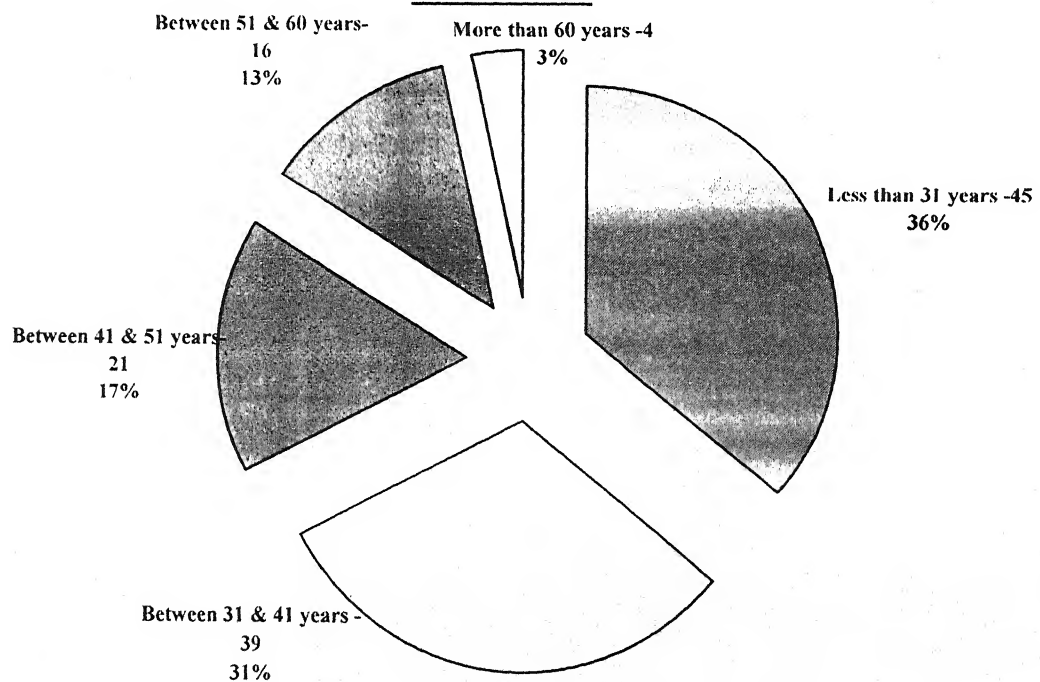
Table – 1.2A
QUALIFICATION OF THE RESPONDENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Graduate	06	03	05	02	16
Post Graduate	06	18	04	05	33
Professional Qualification (CA/ICWA/CS/BE/LLB/MBA/MFC/CFA)	55	26	36	15	132
Ph.D	05	24	02	01	32
Any other Qualification	03	04	03	02	12
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 47.89488   **NOT SIGNIFICANT**

Scale Index = 2.96

QUALIFICATIONS OF THE RESPONDENTS
GHAPH-1.2A

other Qual. 5%

Graduate 7%

Ph.D 14%

Post Graduate 15%
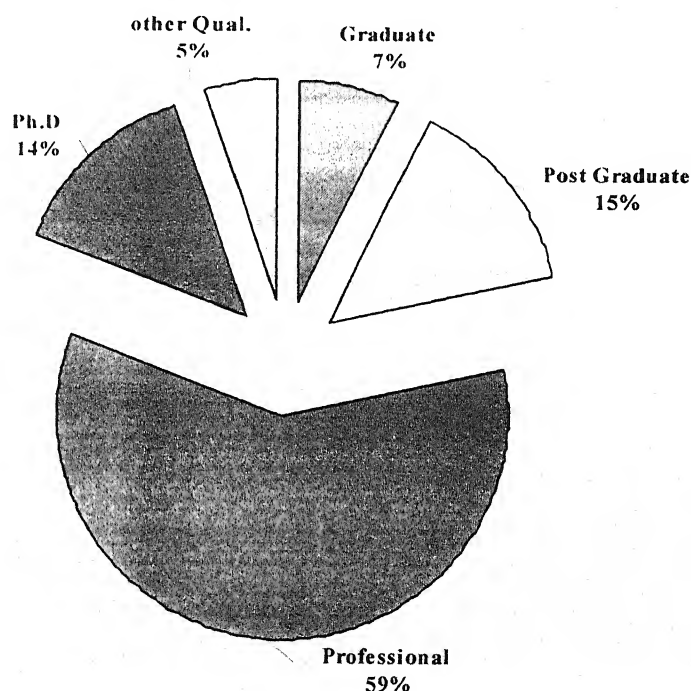
Professional 59%

Table – 1.2B

QUALIFICATION OF THE RESPONDENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Graduate	04	01	04	02	11
Post Graduate	02	15	03	04	24
Professional Qualification (CA/ICWA/CS/BE/LLB/MBA/MFC/CFA)	16	18	17	18	69
Ph.D	02	14	00	00	16
Any other Qualification	01	02	01	01	05
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 32.65522 **NOT SIGNIFICANT**
Scale Index = 2.84

QUALIFICATIONS OF THE RESPONDENTS
GHAPH-1.2B

other Qual. 4%
Graduate 9%
Ph.D 13%
Post Graduate 19%
Professional 55%
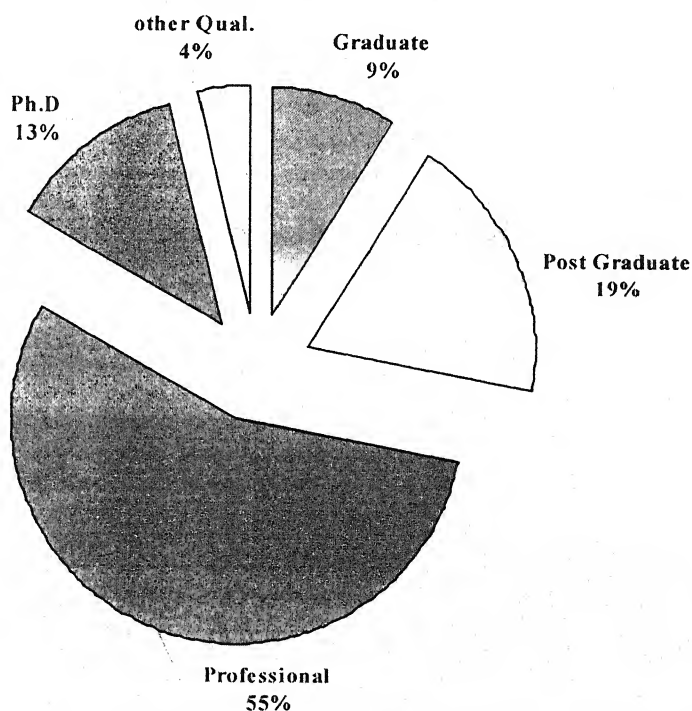
Table – 1.3A
TOTAL SERVICE EXPERIENCE OF THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 2 years	18	11	15	03	47
Between 2 & 5 years	23	17	18	04	62
Between 5 & 10 years	25	14	08	05	52
Between 10 & 15 years	05	15	05	08	33
More than 15 years	04	18	04	05	31
Total	75	75	50	25	225

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE 35.39511   **SIGNIFICANT**

Scale Index = 2.728888

TOTAL SERVICE EXPERIENCE (IN YEARS)
GHAPH-1.3A

- More than 15 years 14%
- Less than 2 years 21%
- Between 10 & 15 years 15%
- Between 2 & 5 years 27%
- Between 5 & 10 years 23%
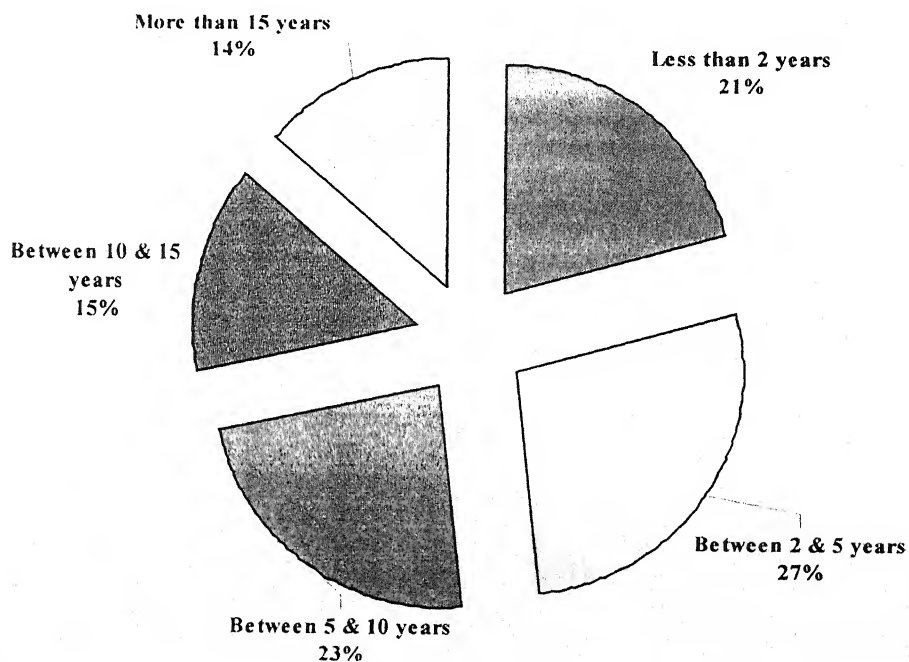
Table – 1.3B

TOTAL SERVICE EXPERIENCE OF THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 2 years	05	04	07	03	19
Between 2 & 5 years	07	10	08	05	30
Between 5 & 10 years	10	10	05	06	31
Between 10 & 15 years	01	11	02	07	21
More than 15 years	02	15	03	04	24
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 21.05403   **SIGNIFICANT**

Scale Index = 3.008

TOTAL SERVICE EXPERIENCE (IN YEARS)
GHAPH-1.3B
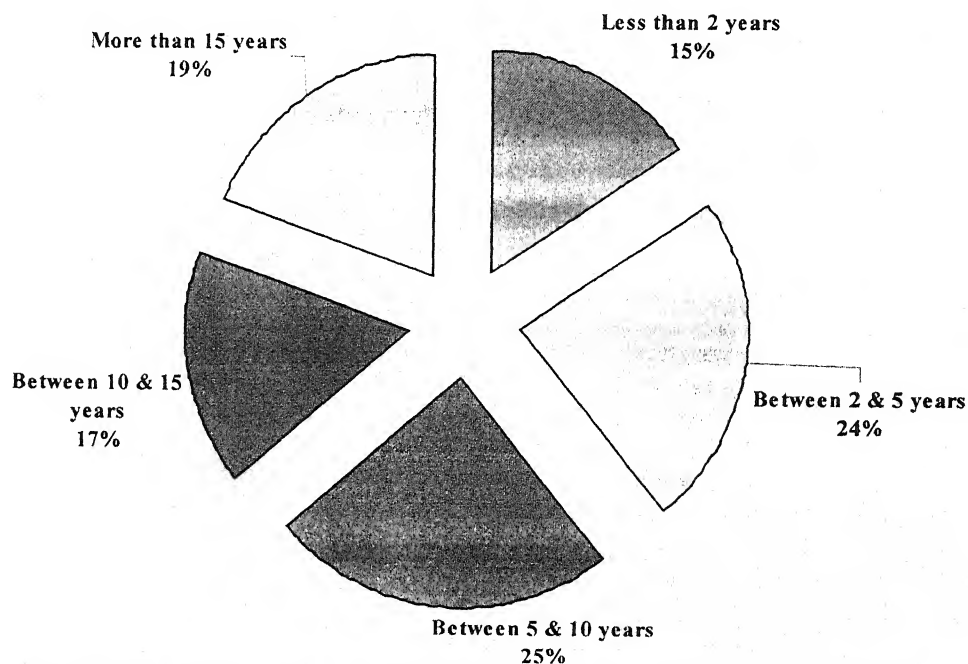
Table – 1.4A
EXPERIENCE OF THE RESPONDENTS IN THE CURRENT ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 2 years	38	13	22	04	77
Between 2 & 5 years	28	16	15	05	64
Between 5 & 10 years	05	15	08	05	33
Between 10 & 15 years	03	15	03	07	28
More than 15 years	01	16	02	04	23
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE 57.19173   **SIGNIFICANT**
Scale Index = 2.36

EXPERIENCE IN CURRENT ORG. (IN YEARS)
GHAPH-1.4A

More than 15 years 10%
Between 10 & 15 years 12%
Less than 2 years 35%
Between 5 & 10 years 15%
Between 2 & 5 years 28%
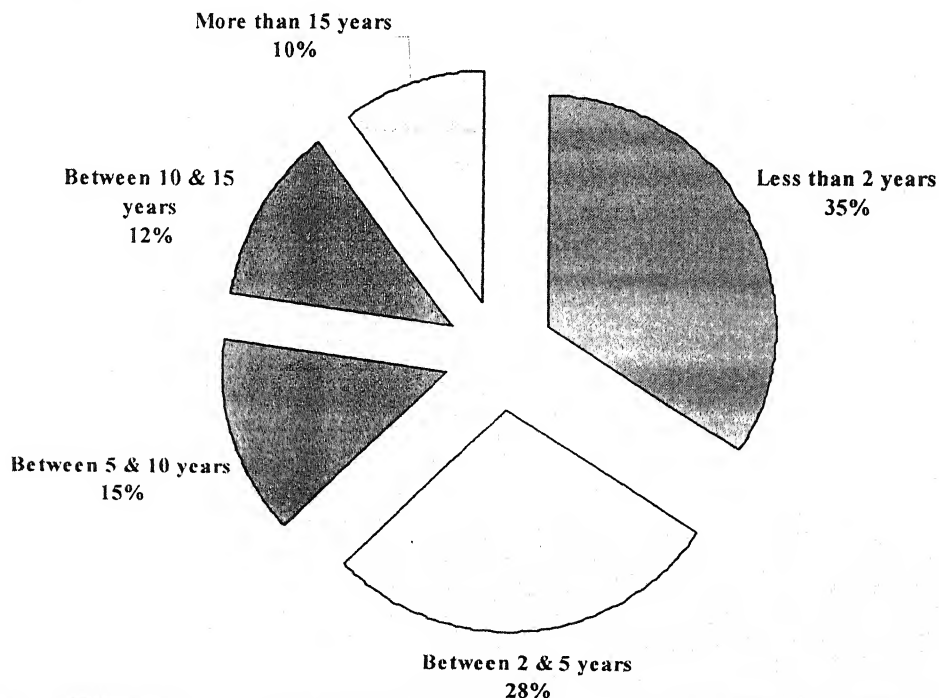
Table – 1.4B
EXPERIENCE OF THE RESPONDENTS IN THE CURRENT ORGANISATION

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 2 years	14	07	09	05	35
Between 2 & 5 years	07	08	07	04	26
Between 5 & 10 years	03	10	06	07	26
Between 10 & 15 years	01	12	02	06	21
More than 15 years	00	13	01	03	17
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 21.03

Computed value of CHI SQUARE – 32.11096 **SIGNIFICANT**

Scale Index = 2.672

EXPERIENCE IN CURRENT ORG. (IN YEARS)
GHAPH-1.4B
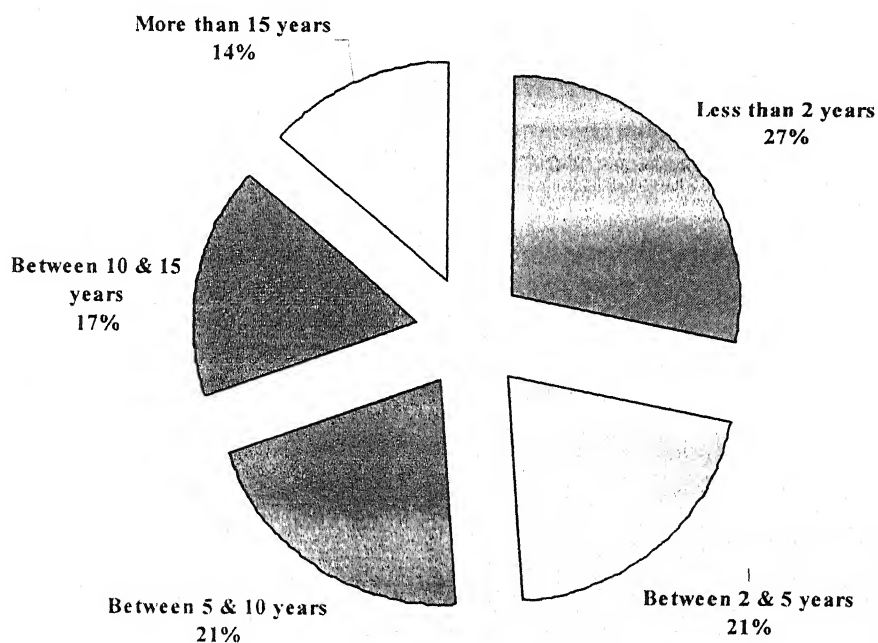
More than 15 years 14%

Less than 2 years 27%

Between 10 & 15 years 17%

Between 5 & 10 years 21%

Between 2 & 5 years 21%

Table – 1.5A

MARITAL STATUS OF THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Married	64	65	44	22	195
Unmarried	10	08	05	03	26
Divorcee	01	02	01	00	04
Total	75	75	50	25	225

D.F. = 12. Table Value at (0.05) = 12.59

Computed value of CHI SQUARE   1.271153   **SIGNIFICANT**

Scale Index = 1.151111

MARITAL STATUS OF THE RESPONDENTS
GHAPH-1.5A
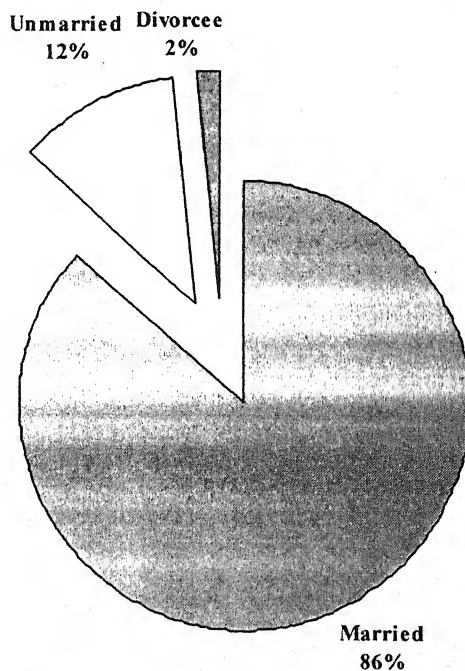
Unmarried 12% Divorcee 2%

Married 86%

Table – 1.5A

MARITAL STATUS OF THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Married	20	43	21	23	107
Unmarried	05	06	03	02	16
Divorcee	00	01	01	00	02
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 12.59

Computed value of CHI SQUARE – 3.469626   **SIGNIFICANT**

Scale Index = 1.16

MARITAL STATUS OF THE RESPONDENTS
GHAPH-1.5B

Unmarried 13%   Divorcee 2%

Married 85%
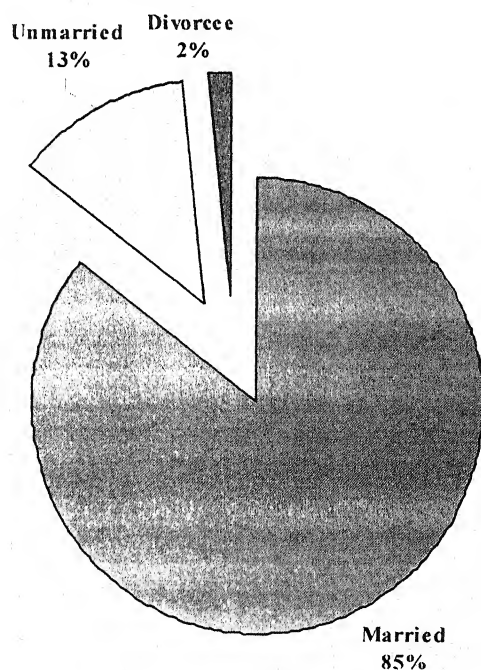
Table – 1.6A

ACCOMMODATION AVAILABLE TO THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Own House	22	25	20	10	77
Rented	41	32	26	07	106
Official	12	18	04	08	42
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) – 12.59

Computed value of CHI SQUARE – 11.54496   **SIGNIFICANT**

Scale Index = 1.844444

ACCOMMODATION USED BY THE RESPCNDENTS
GHAPH-1.6A

Official 19%

Own House 34%
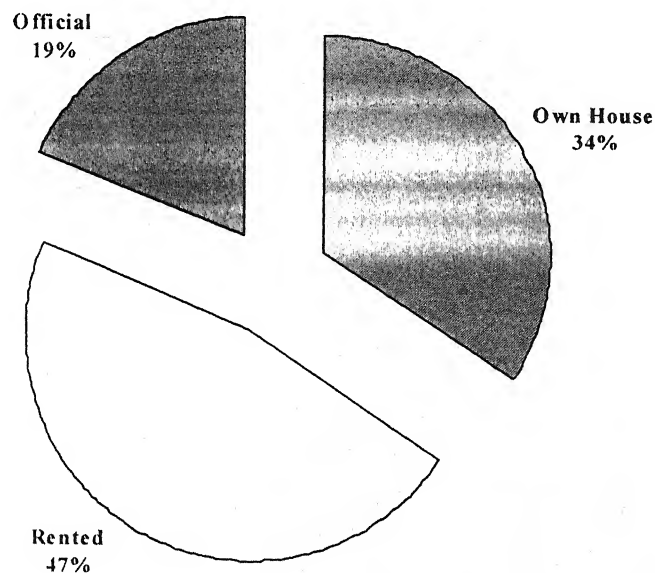
Rented 47%

Table – 1.6B

ACCOMMODATION AVAILABLE TO THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Own House	08	18	16	12	54
Rented	11	22	07	06	46
Official	06	10	02	07	25
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 12.59

Computed value of CHI SQUARE – 9.458615   **SIGNIFICANT**

Scale Index = 1.768

ACCOMMODATION USED BY THE RESPCNDENTS
GHAPH-1.6B

Official 20%

Own House 43%

Rented 37%
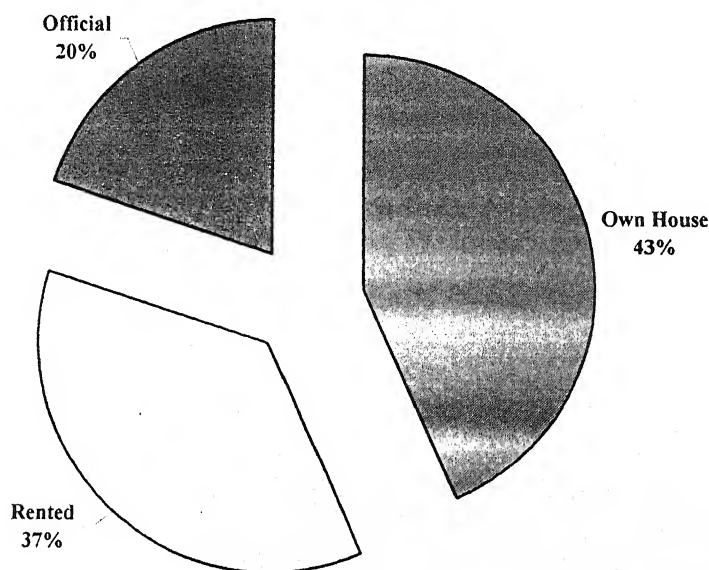
MODE OF TRAVEL USED BY THE RESPONDENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Own Vehicle	21	21	18	06	66
Official	12	19	08	15	54
Public Transport	42	35	24	04	105
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 12.59

Computed value of CHI SQUARE – 24.43694   **SIGNIFICANT**

Scale Index = 2.173333

MADE OF TRAVEL USED BY THE RESPONDENTS
GHAPH-1.7A
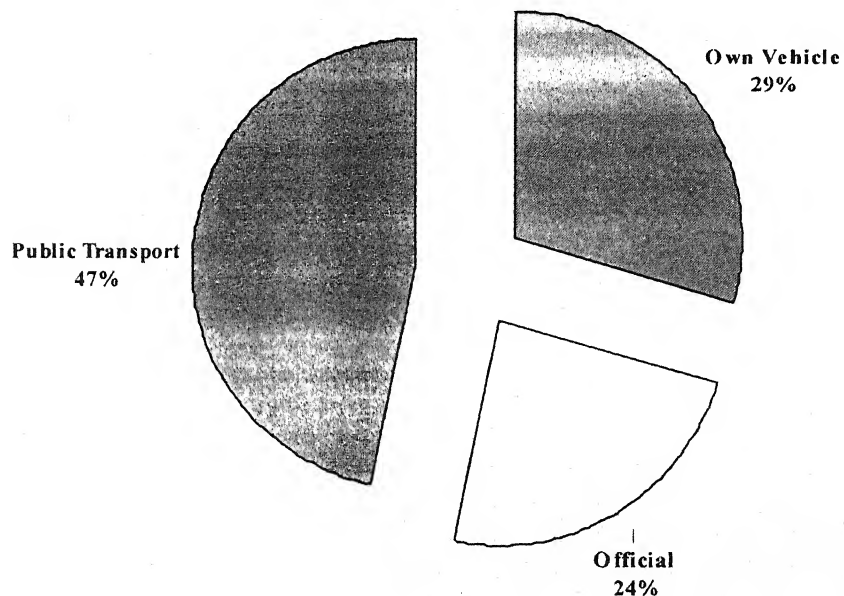
Table – 1.7B

MODE OF TRAVEL USED BY THE RESPONDENT

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Own Vehicle	10	15	10	07	42
Official	04	10	07	14	35
Public Transport	11	25	08	04	48
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 12.59

Computed value of CHI SQUARE – 15.95386 **SIGNIFICANT**

Scale Index = 2.048

MADE OF TRAVEL USED BY THE RESPONDENTS
GHAPH-1.7B

Public Transport 38%

Own Vehicle 34%

Official 28%
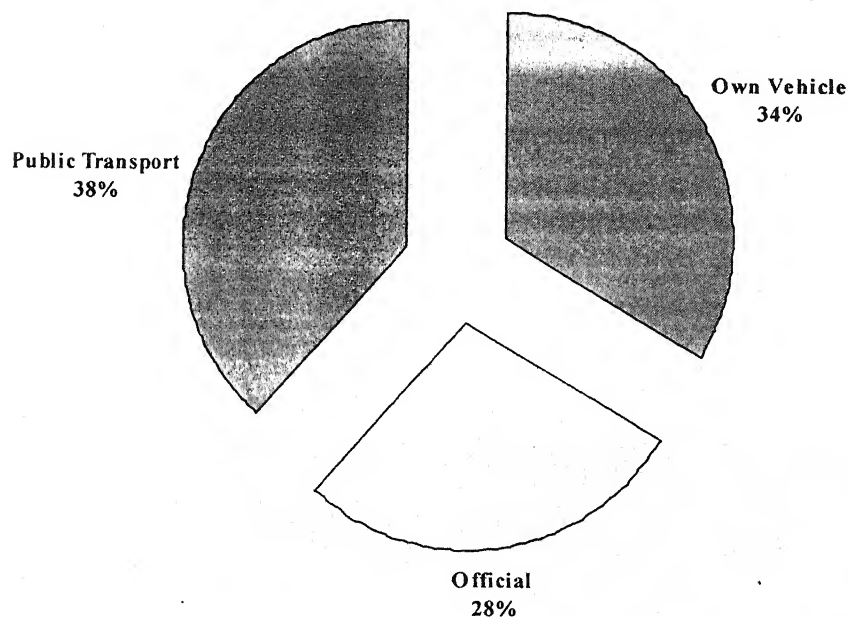
Table – 1.8A

TOTAL EMOLUMENTS PER MONTH OF THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 3001	01	03	02	01	07
Between 3001 & 5001 years	05	07	15	04	31
Between 5001 & 8001 years	21	25	18	12	76
Between 8001 & 12000 years	40	22	08	07	77
Above 12000	08	18	07	01	34
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 37.57402   **SIGNIFICANT**
Scale Index = 3.444444

TOTAL EMOLUMENTS PER MONTH OF THE RESPONDENTS
GHAPH-4.14

- Less than 3001 3%
- Above 12000 15%
- Between 3001 & 5001 years 14%
- Between 8001 & 12000 years 34%
- Between 5001 & 8001 years 34%
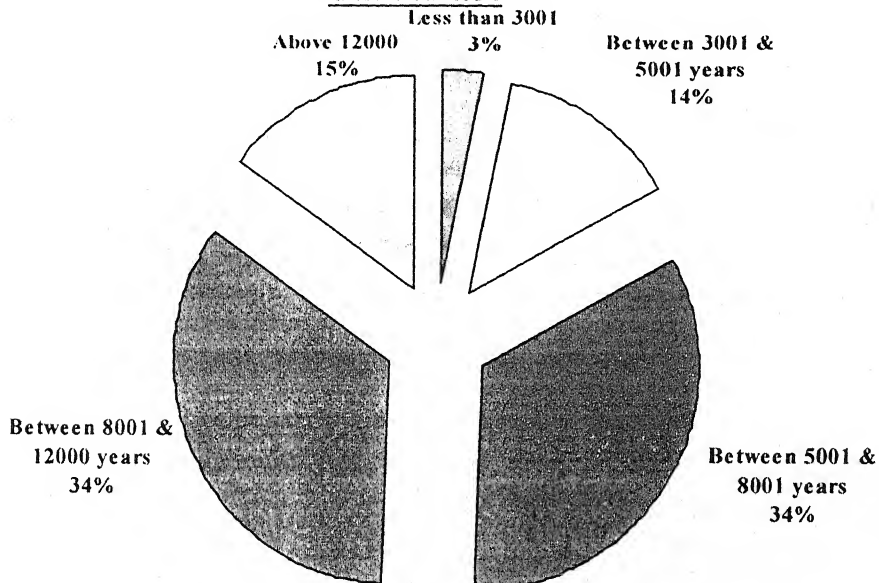
Table – 1.8B

TOTAL EMOLUMENTS PER MONTH OF THE RESPONDENTS

Sector Scale	PSSC	GSSC	PSMC	GSMC	Total
Less than 3001	00	02	01	01	04
Between 3001 & 5001 years	03	04	10	03	20
Between 5001 & 8001 years	06	15	05	11	37
Between 8001 & 12000 years	13	18	05	07	43
Above 12000	03	11	04	03	21
Total	**75**	**75**	**50**	**25**	**225**

D.F. = 12, Table Value at (0.05) = 21.03
Computed value of CHI SQUARE – 20.89032   **SIGNIFICANT**
Scale Index = 3.456

TOTAL EMOLUMENTS PER MONTH OF THE RESPONDENTS
GHAPH-4.14

Less than 3001 3%
Above 12000 17%
Between 3001 & 5001 years 16%
Between 8001 & 12000 years 34%
Between 5001 & 8001 years 30%
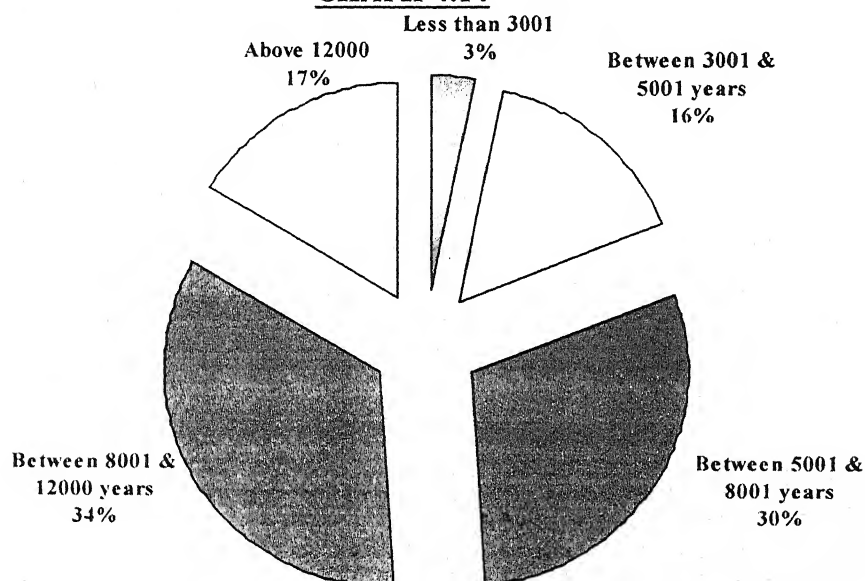
Table 1.9

SUMMARY TABLE OF PERSONAL INFORMATION

T. No	Particulars of Questions asked	Chi-Square	Scale Index
1A	Age	16.35815	2.04
1A	Age	19.58469	2.16
2B	Qualification	47.89488*	2.96
2B	Qualification	32.65522*	2.86
3A	Total Service Experience	35.39511*	2.72888
3B	Total Service Experience	21.05403*	3.008
4A	Experience in Current Organisation	57.19173*	2.36
4B	Experience in Current Organisation	32.11096*	2.672
5A	Marital Statue	1.271153	1.151111
5B	Marital Statues	3.469626	1.16
6A	Accomodation	11.54496	1.844444
6B	Accomodation	9.458615	1.768
7A	Mode of Travel	24.43694*	2.173333
7B	Mode of Travel	15.95386*	2.048
8A	Total emoluments (Per Moths)	37.57402*	3.444444
8B	Total emoluments (Per Moths)	20.89032	3.456

Note :

1. Table no. With 'A' represents data for 225 respondents.

2. Table no. with 'B' represents data for 125 respondents.

3. *represents significant value of Chi-square.

APPENDIX – II

APPENDIX – II

QUESTIONNAIRE

This questionnaire is related with the research work being conducted in the University of Jhansi, on Human Resource Accounting. The information and opinion expressed in this survey shall be exclusively used for research purposes only and shall be kept strictly confidential.

PART –I

PERSONAL INFORMATION

Name   :

Designation   :

Organisation where employed   :

Age (completed Yrar)   :   Less than 31 Year   (   )

                                       Between 31 to 41 Years   (   )

                                       Between 41 to 51 Years   (   )

                                       Between 51 to 60 Years   (   )

                                       More than 60 Years   (   )

Qualification   :   (a) Graduate

                                       (b) Post Graduate

                                       (c) CA/ICWA/CS/BE/LLB/MBA
                                           /MFC/CFA

                                       (d) Ph.D

                                       (e) Any other

Total Service experience   :   Less than (years) 2, 5, 10, 15
                                       above 15 years

Experience in current organiation :   Lass than (years) 2, 5, 10, 15
above 15 years

Marital Status :   Married / Unmarried/Divorcee

Date of last Promotion :

Date of promotion due :

Accommodation :   Own House / Rented / Official

Distance – RES – To Office :   _____kilometer.
Mode of travel :   Own vehicle /Official /Public Transport

Total Emoluments (Per Months) :   (a) Less than Rs. 3001

           (b) Between Rs. 3001 to Rs. 5001

           (c) Between Rs. 5001 to Rs. 8001

           (d) Between Rs. 8001 to Rs. 12001

           (e) Above Rs. 12001

PART – II

The matching of cost and revenue principle of accounting based on historical cost is generally accepted accounting principle. The expired or used portion of an investment is considered as an expense and is debited to the profit and loss account of an accounting period. Please tick mark only one of the following alternatives in each question which your feel is being followed in your organisation.

1. Full debited to the profit and loss account.
2. Allocated over a period of benefit received.
3. Allocated for a period more than a year.
4. Allocated arbitrarily.
5. Not incurred or calculated at all in the organisation.

Agency fees placement service	(1, 2, 3, 4, 5)
Advertisement cost on press: Newspaper, Journals, etc.	(1, 2, 3, 4, 5)
Salary & other cost of Recruitment personnel.	(1, 2, 3, 4, 5)
Cost of committee of Experts for Recruitment	(1, 2, 3, 4, 5)
Candidate's Travelling cost reimbursed	(1, 2, 3, 4, 5)
General Overhead Expenses in Selection process.	(1, 2, 3, 4, 5)
Cost of tuition, travel & lodging for training courses attended outside the orgnisation.	(1, 2, 3, 4, 5)
salaries, space cost & other cost in in-house training	(1, 2, 3, 4, 5)
Familiarisation cost	(1, 2, 3, 4, 5)

The assets taken on lease are shown in the Balance sheet although ownership is not transferred until the fulfillment of lease terms under the generally accepted accounting principle. (Yes/No)

The assets purchased on hire purchased on hire purchase system are shown in the balance sheet as assets although ownership is not transferred until last payment is duly paid.   (Yes/No)

The following questions are related to Human Resource Cost and Value Kindly tick mark the appropriate number which you feel/perceive to be most appropriate.

1. Strongly agree
2. Moderately agree
3. agree
4. Moderately disagree
5. Strongly disagree

The criteria for showing assets on the Balance Sheet seems to be long term future benefits accruable from the asset rather than ownership of asset.   (1, 2, 3, 4, 5)

Assuming Human Resource will stay in the organisation for a longer time than a year, it makes a case to be shown as Human Resource Asset, since the benefits will accrue for a longer time.   (1, 2, 3, 4, 5)

Knowing fully well about matching of cost and revenue principle of Accounting which says that only those cost which are used in earning the revenue shall be charged from the current profit and loss account and the costs which are not used shall be carried forward unless the corresponding benefit is not received. If the Human Resource is going to give benefit from his services to the organisation for a longer period than a year then the cost of acquiring them should be allocated for the period of benefits.   (1, 2, 3, 4, 5)

The Human Resource in general serve the Organisation for a long period of time, hence it is more appropriate to call them Human Resource Asset of the organisation.   (1, 2, 3, 4, 5)

The benefits received by the organisation from Human Resource is for a long period of time. (1, 2, 3, 4, 5)

The rule of charging only those costs which are related in realising the benefits in the current year should form part of Profit and Loss account needs to be made applicable in the case of Human Resource also. (1, 2, 3, 4, 5)

Profit and Loss account of a firm cannot show a true and fair view unless Human Resource Accounting, particularly cost aspect is duly incorporated. (1, 2, 3, 4, 5)

Balance Sheet of a firm cannot show a true and fair view unless Human Resource Accounting is duly incorporated. (1, 2, 3, 4, 5)

The salaries and other compensation paid to the Human Resource in an organisation is actually the value to the individual from his point or view.

(1, 2, 3, 4, 5)

The salaries and other compensation incurred on Human Resource is actually cost incurred on H.R. by the organisation and not value of H.R. to the organization..

(1, 2, 3, 4, 5)

The value of Human Resources to the organization is directly related to the contribution made by the H.R. to the organization.

(1, 2, 3, 4, 5)

The cost incurred on Human Resource is relevant for incorporation in the final accounts based on historical costing and matching of cost and revenue (Financial Accounting) (1, 2, 3, 4, 5)

The value of Human Resource is relevant for Management Accounting.

(1, 2, 3, 4, 5)

Human Resource Accounting can be compatible with financial Accounting

(1, 2, 3, 4, 5)

Replacement Cost of Human Resource becomes useful information while taking Human Resource Turnover decisions.   (1, 2, 3, 4, 5)

Opportunity Cost of Human Resource becomes useful information while taking Human Resource Retention decisions.   (1, 2, 3, 4, 5)

The contract of service is a mutual agreement between the organisation and the individual and if both are satisfied with the performance of each other than the organisation intends to retain the human resource through out their useful service life and the human resource intends to serve throughout his service life in that organisation. If this is true than it can be said that the organisation gets the right to use human resource by incurring certain costs (acquisition, development and retention) which are incurred with the intention to retain human resource for a long period of time. A proper allocation of these costs, which are meant to acquire and retain human resource for a long period of time, for the current period should be charged from the profit and loss account and the balance should be transferred to the Balance Sheet.   (1, 2, 3, 4, 5)

The future compensation (salaries, etc.) paid to the human resource is a part of the contract made at the time of hiring i.e., when the organisation employs a person on a permanent basis than there is an inbuilt commitment of paying him throughout his service life, provided the conditions of the contract are duly met. Hence it can

be concluded that the organisation becomes liable to pay compensation throughout the service life of the human resource. (1, 2, 3, 4, 5)

A person joins an organisation looking to the present as well as future expected compensation to the received from the ogranisation and if the total package suits him, only than he decides to remain in the organisation. Hence, the total return during his services life is in mind while making a contract of service with an organiation. (1, 2, 3, 4, 5)

If the liability arises at the time hiring human resource than it can be shown in the Balance Sheet as is being shown in the case of assets purchased on hire purchase.
(1, 2, 3, 4, 5)

PART – III

Kindly tick mark the following questions in the appropriate space which you feel/perceive to be most appropriate.

To what extent organisational environment provides opportunity for growth and development.

(a) Very Much   (   )   (b) Much   (   )

(c) Little   (   )   (d) Very Little   (   )

(d) Least   (   )

To what extent policies, procedures, Practices etc. regarding training and development are communicated to you.

(a) To great extent   (   )   (b) to a considerable extent (   )

(c) To some extent   (   )   (d) to a little extent   (   )

(d) Not at all   (   )

To what extent are you satisfied with the training and development aids such as manuals, pamphlets, graphs and Charts, displays, posters movies, film, overhead projector, flash cards, case studies, etc. which are being made available in your organisation for training and development

(a) To great extent   (   )   (b) to a considerable extent (   )

(c) To some extent   (   )   (d) to a little extent   (   )

(d) Not at all   (   )

Which of the following types of facilities are being given to you for development programmes.

(a) Fees for attending programmes   (Yea / No)

(b) Travel cost   (Yea / No)

(c) Boarding and Lodging cost   (Yea / No)

(d) Book / Study Material Cost   (Yea / No)

(e) Subscription cost   (Yea / No)

(f) Membership for professional Bodies   (Yea / No)

(g) Leave facility   (Yea / No)

(h) Participation in conference / Seminar   (Yea / No)

Do you get proper briefing by your superior regarding training and development programmes.

(a) Very often   (   )   (b) often   (   )

(c) sometimes   (   )   (d) Rare   (   )

(d) Not at all   (   )

To what extent do you get an opportunity to implement in actual job the knowledge, techniques, etc. learned in the training and development programmes.

(a) To great extent   (   )   (b) to a considerable extent (   )

(c) To some extent   (   )   (d) to a little extent   (   )

(d) Not at all   (   )

To what extent do you place yourself with regard to the skills before & after attending training & / or development programme (s).

S. No. Skills	Before		After	
	Ave-poor Rage	Very Exce- good good llent	Aver poor Age	Very exce- good good llent
1.Analytical ability				
2. Conceptual				
3. Human Relations				
4. Communication				
5. Quick Decision making				
6. Adaptability				
7. Handling Grievances				
8. Handling Grievances				
9. Initiative				
10. Planning				
11. Organising				
12. Controlling				
13. Coordinating				
14. Creativity				
15. Delegation of Authority				
16. Maintaining				
17. Accelerating				
18. Alertness				
19. Technical competence				
20. Motivation				

To what extent the skills of the people can be really improved through training and development programmes.

(a) To great extent   (   )   (b) to a considerable extent (   )

(c) To some extent   (   )   (d) to a little extent   (   )

(d) Not at all   (   )

If the training and development programmes really improve skills does it remain useful for a long period of time (Yes/No.)

(a) Less than a Year   (   )   (b) Between 1 & 2 Years   (   )

(c) Between 2 & 3 Years   (   )   (d) Between 3 & 5 Years   (   )

(d) More than 5 Years   (   )

To what extent the training and development programmes have an impact on increase in productivity.

(a) To great extent   (   )   (b) to a considerable extent (   )

(c) To some extent   (   )   (d) to a little extent   (   )

(d) Not at all   (   )

If the training and development programmes really improve productivity does it. Remain useful a long period of time (Yes / No.)

(a) Less than a Year   (   )   (b) Between 1 & 2 Years   (   )

(c) Between 2 & 3 Years   (   )   (d) Between 3 & 5 Years   (   )

(d) More than 5 Years   (   )

How do you rate the training and development programmes in which you have participate.

S.No. Parameters	Fully Satisfied	Fairly Satisfied	Little Satisfied	Dis-satisfied	Undecided
1. Course content					
2. Presentation					
3. Faculty					
4. Environment					
5. Overall					

" It is a general feeling that training and development programmes are of little practical use except for providing a day-off to the managers". To what extent do you agree.

(a) To great extent   (   )   (b) To a considerable extent (   )

(c) To some extent   (   )   (d) To a little extent   (   )

(d) Not at all   (   )

To what extent the following facets are being used as a support for training and development programmes by top management.

S.No. Facets	To A Great Extent	To A considerable extent	To some extent	To A little Extent	Not at all
1. Participation in designing training a development programmes					
2. Participation in inauguration, valediction etc.					
3. Participation in selection of faculty.					
4. Management & Control of Programmes					
5. Evaluation of training & development programmes					
6. Participation as faculty					
7. General guidelines & support					
8. Identification of individual development needs					
9. Follow-up of trained and development human resource					
10. Utilisation of trained and development human resource					
11. Review of performance					
12. Preparation of career development programmes					

How frequently your company conducts programmes for updating human resources?

(a) Monthly   (   )   (b) Quarterly   (   )

(c) Yearly   (   )   (d) Bi-Annually/Rarely   (   )

(d) Not at all   (   )

Does your company conduct learning programmes for human resources to enable them to get acquainted with job requirements?

(a) For all levels   (   )   (b) For High level   (   )

(c) For Middle level   (   )   (d) for lower Level   (   )

(d) Not at all   (   )

Does your company conduct training programmes for human resources to enable them to seek promotion within the organisation?

(a) For all levels   (   )   (b) For High level   (   )

(c) For Middle level   (   )   (d) for lower Level   (   )

(d) Not at all   (   )

What it the basis of internal promotion in your organistion?

(a) Pure Merit   (   )   (b) Seniority cum merit   (   )

(c) Pure Seniority   (   )   (d) other consideration   (   )

(d) No internal promotion   (   )

Do you fell that updation programmes improve productivity? (Yes/No) If. Yes what is period of return or benefit?

(a) Less than a Year   (   )   (b) Between 1 & 2 Years   (   )

(c) Between 2 & 3 Years   (   )   (d) Between 3 & 5 Years   (   )

(d) More than 5 Years   (   )

Do you feel that learning programmes improve productivity? (Yes/No) If yes what is the period of benefits?

(a) Less than a Year   (   )   (b) Between 1 & 2 Years   (   )

(c) Between 2 & 3 Years   (   )   (d) Between 3 & 5 Years   (   )

(d) More than 5 Years   (   )

Do you feel that training programmes improve productivity? (Yes/No.) if yes what is period of return or benefits?

(a) Less than a Year   (   )   (b) Between 1 & 2 Years   (   )

(c) Between 2 & 3 Years   (   )   (d) Between 3 & 5 Years   (   )

(d) More than 5 Years   (   )

PART-IV

The following questions are related to the intention of the organisation to retain human resource and the perception of the human resource in this regard. Kindly tick mark the appropriate number in each question which you feel/perceive to be most appropriate.

1. Strongly agree
2. Moderately agree
3. Agree
4. Moderately disagree
5. Strongly disagree

The organisation at the time of acquiring human resources intends to acquire those who are likely to remain in the orgainsation for a longer period of time, (1,2,3,4,5)

The organisation intends to deploy human resource in such a way that it is possible to retain maximum possible human resource hired.   (1,2,3,4,5)

The organisation intends to retain existing human resource having positive human resource value upto the age of retirement.   (1,2,3,4,5)

The organisation provides opportunity for development of human resource with the objective of retaining them.   (1,2,3,4,5)

The organisation provides opportunity for technological updation in order to retain the existing human resource.   (1,2,3,4,5)

The organisation develops human resource to fulfil the future needs of the organisation at relatively lesser cost.   (1,2,3,4,5)

The organisation provides updation training to human resource to fulfil the needs

of the organisation at a relatively lesser cost. (1,2,3,4,5)

The organisation intends to retain human resource by providing housing facility to the human resource. (1,2,3,4,5)

The organisation intends to retain human resource by providing transportation facility to the human resource. (1,2,3,4,5)

The organisation intends to retain human resources by providing medical facility to the human resource.
(1.2,3,4.5)

The organisation intends to retain human resource by providing level travel concession facility to the human resource. (1,2,3,4,5)

The organisation intends to retain human resource by undertaking measures of pollution control. (1,2,3,4,5)

The organisation intends to retain human resource by undertaking safety measures in tne organisation. (1,2,3,4,5)

The ofganisation intends to retain human resource by providing facilities like canteen. (1,2,3,4,5)

The recreation facility is provided by the organisation with the intention to retain human resource. (1,2,3,4,5)

The township developed by large organisations in remote undeveloped or underdeveloped areas is basically to retain human resource. (1,2,3,4,5)

The housing facility to the human resource is provided to ensure their availability in emergency or in odd hours. (1,2,3,4,5)

The organisation provides transport facility to ensure that human resource maintain punctuality. (1,2,3,4,5)

The organisation provides medical facility to optimally utilise the services of human resource. (1,2,3,4,5)

Leave travel concession facility is provided to keep the human resource fresh for hard work for a long time. (1,2,3,4,5)

The organisation undertakes pollution control measures to ensure good health of the human resource. (1,2,3,4,5)

The safety measures within the organisation are undertaken to avoid any happening within the organisation leading to trouble (1,2,3,4,5)

The organisation provides recreation facility to keep human resource mentally and physically fit. (1,2,3,4,5)

The canteen facility is provided by the organisation to ensure that the human resource remain inside the organisation during working hours and lunch time.

(1,2,3,4,5)

The large organisations in remote undeveloped or underdeveloped areas are bound to develop their own township. (1,2,3,4,5)

The retirement benefits are primarily meant to ensure that human resource will stick to the organisation. (1,2,3,4,5)

The organisation does not offer pre-mature retirement to those human resource whom the organisation considers more potentially useful human resource as compared to other people in the same job. (1,2,3,4,5)

An individual sticks to an organisation which make efforts to retain human resource and - the individual is satisfied by the organisational efforts in this regard.

(1,2,3,4,5)

An individual prefers to retire from an organisation which is known for giving good treatment to retired human resource. (1,2,3,4,5)

The organisation keeps retirement benefits just to fulfill the legal requirements imposed by law. (1,2,3,4,5)

PART-V

Kindly tick mark the appropriate number which you feel/perceive to be most appropriate in the following questions.

1. Strongly agree
2. Moderately agree
3. Agree
4. Moderately disagree
5. Strongly disagree

The compensation is adequate looking to the work expected from you by the organisation. (1,2,3,4,5)

The compensation is better as compared to other companies in the same industry. (1,2,3,4,5)

The compensation is adequate to maintain the standard of living expected by the company. (1,2,3,4,5)

The compensation is adequate to maintain the standard of living expected by you,

The emoluments are sufficient to maintain your family. (1,2,3,4,5)

The housing facility is adequate as per the industry norms. (1,2,3,4,5)

The transportation facility reduces mental strain of daily commuting and keeps you fresh while on job. (1,2,3,4,5)

The medical facilities are satisfactory looking to the organisation. (1,2,3,4,5)

The education facilities for the children of employees are better as compared to other companies in the same industry. (1,2,3,4,5)

The drinking water facility in your organisation makes you feel happy. (1,2,3,4,5)

The medical facilities are better than other companies in the same industry.
(1,2,3,4,5)

The career prospects of individuals are taken care of by the organsiation.
(1,2,3,4,5)

The self esteem needs of individuals are given due regard in the organisation.
(1,2,3,4,5)

One can think of self actualisation while continuing in this organisation.
(1,2,3,4,5)

Voluntary Retirement Schemes are beneficial for the individuals.   (1,2,3,4,5)

The development needs of individuals are properly fulfilled by the organisation.
(1,2,3,4,5)

The safety needs of individuals are duly regarded by the organisation.
(1,2,3,4,5)

The recreational facilities required by an individual are satisfactorily provided by the organisation.   (1,2,3,4,5)

The retirement benefits are properly matcheg with the status of the job. (1,2,3,4,5)

Voluntary Retirement Schemes are beneficial for the organisation.   (1,2,3,4,5)

If one has high ambitions for individual growth than this is the right kind of organisation for him.   (1,2,3,4,5)

If one wants handsome jump in salary by proving his worth on the job than he is on the right track in this organisation. (1,2,3,4,5)

If one loves to work than he is a real fit in this organisation. (1,2,3,4,5)

Drastic changes towards improvement in this organisation can be easily carried out. (1,2,3,4,5)

The working environment in the organisation is congenial creative work.

(1,2,3,4,5)

The idea of life time employment followed by Japanese is appreciable

(1,2,3,4,5)

The American approach of contractual appointment is not suitable for Indian conditions. (1,2,3,4,5)

Experience of varied organisations makes an individual jack of all and master of none. (1,2,3,4,5)

It is really enjoyable to work in the same organisation throughout one's life.

(1,2,3,4,5)

This is a kind of organisation where one can spend whole life.

(1,2,3,4,5)

One can hope for being satisfied by retiring from this organisation. (1,2,3,4,5)

BIBLIOGRAPHY

BIBLIOGRAPHY

BOOKS

- American Accounting Association, "A Statement of Basic Accounting Theory", New York, N.Y., 1966.

- Becker, Gary S. "Human Capital", National Bureau of Economic Research Columbia University Press, New York, N.Y. 1964.

- Blaul Gary "Human Resource Accounting", work In America Institute of Studies in Productivity No. 06. New York, 1978.

- Brummet, R.L, Flamholtz, Eric G. and Pyle, William C., eds., "Human Resource Accounting : Development and Implementation in Industry", Foundation for Research on Human Behavior Ann Arborl Michigan. 1969.

- Bureau of Public Enterprises, "Government Policy for the Management of Public Enterprises-Vol.I & II, N. Delhi 1985.

- Caplanl, Edwin H. and Stephen Landekich, "Human Resource Accounting: Past, Present and Future", National Association of Accountants, New York.

- ChakrabortYI S .K., "Human Asset Accounting: The Indian Context in Topics in Accounting, and Finance" Oxford University Press, 1976.

- DeCenzo 'David A. and Stephen P., Robbins, "Personnel/Human Resource Management" Prentice Hall of India Pvt. Ltd., New Delhi 1989.

➢ Fabrican, Solomon, "Meaning and Measurement of Productivity", McGraw Hill Book Company, New York, N.Y.1964.

➢ Fadel, Hisham, "Accounting Model for the Valuation of Human Resources", Massey University, Palmerston, N. Z., 1977."

➢ Fisher, R.A, "Statistical Methods for Research Workers" London, Olivev and Boyd.

➢ Flamholtz, Eric G.," Human Resource Accounting" ,Dickenson Publishing co., Califf, 1974.

➢ Flamholtz, Eric G., "Human Resource Accounting: Advances in concepts Methods and Applications", Jossey Eass Publishers, San Francisco, London, 1985.

➢ Flippo, Edwin B., "Principles of Personnel Management", McGraw-Hill, Tokyo, 1981.

➢ Gallanghen, Charles A. and Hugn J. Watson, "Quantitative Methods for Business Decisions", McGraw Hill Book Co., New York, N.Y.,1980.

➢ Giles, W. J. and D. F. Robinson. "Human Asset Accounting", Institute of Personnel Management and Institute of Cost and Management Accountants, London, 1972.

➢ Ginzberg, Eli , "Human Economy", McGraw Hill Book Co., York, N.Y., 1976.

➢ Glautier, M. W. E. and B. Underdow, "Accounting Theory and Practice", Pitman Publishing Ltd., Kenya, 1976, pp. 717-734.

➢ Gray, Jack, Kenneth S. Johnson, John J. Willinghan and R. Gene Brown, "Accounting Information and Business De9isions", McGraw Hill Book Co., New York, N.Y. 1964.

➢ Gupta, A.S. Das, "Human Resource Accounting", Society of Management Information Technology, Bristol, London, 1974.

➢ Gupta, Santosh, "Research Methodology and Statistical' Techniques", Deep & Deep Publications, New Delhi, 1993.

➢ Hansen, W.Lee, ed., "Education, Income and Human Capital", National Bureau of Economic Research. New York, N.Y. 1970.

➢ Harbision, Frederick H., "Human Resources as the wealth of Nations ", Oxford University Press, New York, N.Y.1973.

➢ Hermanson; Roger H. "Accounting for Human Assets" Occasional Paper No.14, Graduate School of Business Administration. Michigan State University, 1964.

➢ Harbison. Frederick H., "Human Resources as the Wealth of Nations", Oxford University Press, New York, N.Y. 1973.

➢ Hopwood, Anhony, "Accounting and Human Behaviour" Prentice Hall Inc., Englewood cliffs, 1976.

330

➤ Institute. of Chartered Accountant in England and Wales, "Survey of 300 Company Reports" London, 1981.

➤ Johnson, H.C. "disclosure of Croporate Social Performance", Praeger Publishers, 1979

➤ Johanson, Rodney D. and Bernard D. siskin. "quantative techniques for Businesses Decision ,"prentice Hall Inc.,Englewood cliffs ,N.J,1977.

➤ Kiker , B.F, "Investment in Human capital," University of South Carolina press, Columbia S.C.1971.

➤ Likert, Rensis , "New Patterns of Managemant ",McGraw Hill Book Company, New York ,N.Y. 1961.

➤ Likert, Rensis, "The Human Organisaion: Its managemant and Value".McGraw Hill Books Co. New york ., 1967.

➤ Luthans, Fred. "Organisational Behaviour", McGraw Hill International Book Company, New York, 1981.

➤ Malik, R. K., "Human Resource Accounting and Deci.sion Behaviour", Anmol Publication, New Delhi, 1992.

➤ Michael, V.P.. "Human Resource Management and Human Relations", Himalaya Publishing House, Delhi, 1995.

- Pareek, Udai and T.V. Rao, " Designing and Managing Human Resource Systems: With Special Emphasis on Human Resource Development, Oxford and IBH, New Delhi,1981.

- Porwal, L. S., "Accounting Theory: An Introduction", Tata McGraw Hill Publishing Company Ltd. New Delhi. 1986.

- Probst, Hahn B., "Measuring and Rating Employee Value", The Roland Press Co., New' York, N.Y., 1947.

- Rao, C. R., 'Balance Sheets: How True and How Fair", Brahmi Publishers, India, 1987.

- Rao, N. P., "Human Resource Development in Management and Administration: A Scientific Understanding and Harnessing of Human Faculties, Potential, Excellence" B.R. Publishing Corporation, Delhi, 1986.

- Rao, P. Subba, "Human Aspects of Management", Himalaya Publishing House, Delhi. 1995.

- Sarma, A. M., "Personnel and Human resource Management", Himalaya Publishing House, Delhi, 1995.

- Schultz, Theodore W. Investment in Human Capital : The Role of Education and of Research", The Free Press, New York.1971.

- Singh, B. P. and T. N. Chhabra, "Personnel Management and Industrial Relations", Dhanpat Rai & Sons, Delhi. 1994-95.

➢ Sydenham, R.W. "Human Resource Accounting Measurements", Institute of Cost and Management Accountants, London, -1979.

➢ Taylor, P. J. "An Analysi s of the Problems of Human Resource Accounting", University College of Northwales, London, 1975.

➢ The Institute of Chartered Accountants of India. of Statements and Standards", New Delhi 1986.

➢ Thurow, Lester, "Investment in Human Capital" Wadsworth Publishing Co., Belmont, Calif., 1970.

➢ Yalun-Chou. "Applied Business and Economics Statistics", New York, Halt, Rinehart and Winston, 1965.

➢ American Accounting Association," A Statement of basic Accounting theory,". New York, N.4; -1966

➢ Blau, Gary's "Human Resources Accounting,'work in American Institute of studies in productivity, no-6, New York. 1978.

➢ Becker, Gary s., "Human Capital". National Bureau of Economic Research. Columbia University Press, new York, N.Y. 1964.

➢ Brummet, R.L., Flamholtz, Eric G. and Pyle William c., Eds. "Human Resources Accounting ; Development and Implementation in industry", Foundation for Research on Human Behavior, Ann Arbor, Michigan,1969.

➢ Bureau of public enterprises, "Government Policy for the management of Public Enterprises- Vol -I & II, N. Delhi, 1985.

➢ Caplan, Edwin H. and Stephen Landekich, "Human Resources Accounting: Past, Present and future ", National Association of Accountant ants, New York.

➢ Chakraborty, S.K, " Human Asset Accounting : The Indian Context in Topics in Accounting and Finance", Oxford university press,1976.

➢ Decenzo, David A. and Stephen p. Robbins,"personnel/Human Resource Management", prentice Hall of India PVT. Ltd., New Delhi, 1989.

➢ Fabrican, Solomon, " Meaning and measurement of productivity", Mcgraw Hill Book Company, New York, N.Y.1964.

➢ Fadel, Hisham," Accounting Model for the valuation of Human Resources". Massey University, Palmerston, N.Z, 1977.

➢ Fisher ,R.A, "Statistical Methods for Research Workers". London ,Olivev and Boyd.

➢ Flamholtz, Eric G.," Human Resource Accounting", Dickenson publishing Co.. Califf,1974.

➢ Flamholtz, Eric G.," Human Resource Accounting: Advances in concepts .Methods and Application." Jossey Eass Publishers, San Francisco, London. 1985.

➢ Flippo, Edwin B., "Principles of personnel Management", Mcgraw-Hill, Tokyo,1981.

➢ Gallanghen, charles A. and Hugn J. Watson ,"Quantitative Methods for Business Decisions," Mcgraw Hill Book CO., New York, N.Y.1980.

➢ Giles, W.J. and D. F Robon

ARTICLES :

➤ American Accounting Association Committee on HRA, "Report on Human Resource Accounting", The Accounting Review Vol.XLVIII,1973.

➤ Agarwal, Dr. N.P. and Dr. S.C. Bardia, "Human Resource November, 1988, The Management Accountant, November 1988, pp. 744 - 746.

➤ Ahuja, N.L. "Accounting Standards - Their Applicability and Auditors' Responsibilities", The Chartered Accountant, India, June,1988, pp.1110-1114.

➤ Alexander, Michael O. "Investment in People", Canadian Chartered Accountant, July, 1971.

➤ Ameiss, Albert P. and Williams, Dean E., "HRA in Industry", CA Magazine, Canada, Vol. 114, August, 1981

➤ Ansari, Shadid L. and Flamholtz, Diana T., "Management Science and Development of HRA : An Historical Perspective", Accounting Historians Journal, Vol. 5, Fall 1978.

➤ Baker, G.M.N., "Feasibility and Utility of Human Resource Accounting", California Management Review, Summer, 1974.

➤ Baker, G.M.N., "Human Resource Accounting", Accountancy Ireland, October, 1974, pp. 22-25.

➤ Banner, David and G.M.N. Baker, "Human Resource Accounting: A Critical View", MSU Business Topics, Autumn,1973, pp.45-52.

➢ Bardia, S.C. "Human Resource Accounting", The Chartered Accountant, India, August, 1989, pp. 105-107.

➢ Bassett, Glenn N., "Employee Turnover Measurement and Human Resource Accounting", Human Resource Management, Fall, 1972.

➢ Batra, G. S. and B. S. Bhatia, "Human Resource Accounting in India - A perspective and Appraisal", Indian Journal of Accounting, Vol. XXIV, June, 1993, pp. 36-43.

➢ Becker, Gary S., "Investment in Human Capital: A Theoretical Analysis", The Journal of Political Economy, Supplement, Oct. 1962.

➢ Birnberg, J.G. et. al., "The Effects of Personality on Subjects Information Processing: A Reply", The Accounting Review, July, 1980.

➢ Blaine, E. and W. T. Stanbury, "Accounting for Human Capital", Canadian Chartered Accountant, January, 1971.

➢ Bose, Ratindra Nath, Human Resource Accounting with Special Reference to India", The Management Accountant, September,1989, pp. 539 - 541

➢ Brummet, R. Lee, "Human Resource Accounting in Industry" Personnel Administrator, July - August, 1969.

➢ Blummet, R. Lee, "Accounting for Human Resources", The CPA Journal, July,1970, pp. 547-555.

➢ Brummet, R. Lee, "Accounting for Human Resources", The Journal of Accountancy, December, 1970.

➢ Brummet, R.L., Eric Flamholtz and William C. Pyle, "Accounting for Human Resources", Michigan Business Review, March, 1968.

➢ Brummet, R.L., Eric Flamholtz and William C. Pyle, "Human Resource. Measurement: A challenge for Accountants", The Accounting" Review, April, 1968, pp. 217-224.

➢ Brummet, R.L., Eric Flamholtz and William C. Pyle, "Human Resource Accounting: A Tool to Increase Managerial Effectiveness ", Management Accounting, New York, August. 1969. pp. 12-15.

➢ Butcher, J. V. C., "Employee Evaluation", The Accounting, August 6, 1970.

➢ Caddy, G. K., "Human Value Model", Management Accounting, New York April,1970.

➢ Carper, William B., "Feasibility of HRA for CPA Firms", South East Regional Group, Collected Papers of the 26ᵗʰ Annual Meeting, American Accounting Association, Memphis. Tenn.. 1974.

➢ Cerullo, Michael J., "Human Resource Accounting Modes for Management Decision Making", South African Chartered Accountant, June, 1978, pp. 193 - 204.

➢ Chatterjee, B.K., "Human Asset Accounting", Economic Times, December 30,1977

➢ Chastain, C. E., "Evaluation of Human Resource Accounting ", University of Michigan Business Review, January, 1979.

➢ Craft, J.A. and J.G. Birnberg, "Human Resource Accounting: Perspective and Prospects", Industrial Relations, Feb.,1976.

➢ Crumbley, D. L" and" R. S. Savich, "Use of Human Resource Accounting in Taxation", The Accounting Review, Jan.,1975.

➢ Connellan, Thomas K., "Management Development as a Capital Investment", Human Resource Management, Summer, 1972.

➢ Cooper, Allen A. and James E. Parker, "Human Resource Accounting: An Examination", Cost and Management, January, February, 1973, pp. 21-26.

➢ Corlo, Rosedi, "Human Resource Accounting: A Synthesis", Cost and Management, July-August, 1983, pp. 57-60.

➢ Cullather, James L. "The Missing Asset: Human Capital", Mississippi Journal of Business and Economics, Spring 1967.

➢ Dave, Shiv Kumar, "Towards a Comprehensive Model for Human Resources Accounting", The Chartered Accountant The Institute of Chartered Accountants of India, June, 1987.

➢ Dermer, J. and J.P. Siegel, "Role of Behavioural Measures in, Accounting for Human Resource's", The Accounting Review, January, 1974.

➢ Devine, Carl Thomas, "Research Methodology and Accounting Theory Formation", The Accounting Review, July, 1960.

➢ Dittman, D.,H.Juris and S.Revsine, "On the Existence of Unrecorded Human Assets : An Economic Perspective" , Journal of Accounting Research, Spring, 1976.

➢ Dittman, D., H.Juris and S.Revsine "Unrecorded Human Assets - A Survey of Accounting Firm's Training Programmes", The Accounting Review, October, 1980.

➢ Dobbins, Richard and Peter Trussel, "The Valuation of Human Resource", Management Decision, Vol., 13 No.3, pp. 155-169.

➢ Driver, M.J. and T.J. Mock, "Human Information Processing Decision Style Theory and Accounting Information Systems", The Accounting Review, July, 1975. .

➢ Dutta, Dr. A. N., "Re-visiting HRD: Twin Aspects of Management and Accounting", The Management Accountant, December, 1987, p. 877.

➢ Ebersberger, S.A., "HRA - Can we Afford it ?",Training and Development Journal, 1981, Vol. 35 (8) .

➢ Eggers, H., C. "The Evaluation of Human Assets Management Accounting, New York, November, 1971.

➢ Einhorn, J.J., "Syntheses: Accounting and Behavioural Science", Journal of Accounting Research, Supplement, 1976.

➤ Elias, Nabil, "Some Aspects of Human Resource Accounting", Cost and Management, Nov. - Dec., 1971.

➤ Elias, Nabil, "The Effects of Human Asset Statements on the Investment Decision: An Experiment", Empirical Research in Accounting, Selected Studies, 1972.

➤ Espahbodi, Pouran, "Human Resource Accounting and Stock Valuation", The The Management Accounting July,1988. pp.479-482.

➤ Figler, Homer R"." Accounting for Human Assets", Management Accounting, New York, February, 1976.

➤ Flamholtz, Eric G., "A Model for Human Resource Valuation . A Stochastic Process with Service Rewards", The Accounting Review, April, 1971.

➤ Flamholtz, Eric G., "Should Your Organization Attempt to Value its Human Resources ?", California Management Review, Winter, 1971.

➤ Flamholtz, Eric G., "On the Use of the Economic Concept of Human Capital in Financial Statements: A Comment", The Accounting Review, Janauay-1972.

➤ Flamholtz, Eric G., "Assessing the Validity of a Theory of Human Resource Value - A Field Study", Empirical Research in Accounting Selected Studies, 1972.

➤ Flamholtz, Eric G., "Toward a Theory of Human Resource Value in Formal Organization, The Accounting Review, October, 1972, pp.666-668.

➢ Flamholtz, Eric, G., "Human Resource Accounting: Measuring positional Replacement Costs", Human Resource Management, Spring, 1973.

➢ Flamholtz, Eric G., "The Impact of Human Resource Valuation on Management Decisions" A Laboratory Experiment", Accounting Organizations and Society, 1976.

➢ Fiamholtz, Eric G., "Human Resource Accounting : A Review of Theory and Research " The Journal of management Studies February, 1977, pp 44-61.

➢ Flamholtz, E.G. and T.S. Lundy, "Human Resource Accounting for CPA firms", The CPA Journal, October, 1975, pp. 45-50.

➢ Foley, Kenneth, "Accounting for Human Resources", Management Accounting, September, 1977.

➢ Friedman, A. and B. Lev, "Surrogate Measure for the Firms Investments in Human Resources", Journal of Accounting Research, Vol.12 NO.2 Autumn, 1974, pp. 235-250.

➢ Gambling, T.E.M., "System Dynamics Approach to Human Resource Accounting in Taxation", The Accounting Review, Oct., 1975.

➢ Gilbert, Michael' H., "The Asset Value of the organization", Management Accounting, New York, July, 1970:

➢ Gitelman, H.M., "An Investment Theory of Wages", Industrial and Labour Relations Review, April, 1968.

➢ Glautier, M.W.E. and B. Underdown, " Problems and Prospects of Accounting for Human Assets", Management Accounting March, 1973, pp. 98-102.

➢ Gordon, Francine E., "Effects of salary and HRA Disclosures on Small Group Relations and Performance", Accounting Organizations and Society, Vol. No. 2(4), 1977.

➢ Grazulis, C., "Look at People in Annual Reports" Personnel Administrator, August 23, 1978.

➢ Grove, Hugh D., Theodore J." Mock and Keith B. Ehrenreich "Review of HRA Measurement Systems from a Measurement Theory", Accounting, Organizations and Society Vol. 2 No.3, 1977.

➢ Gul, Ferdinand A." "Empirical Study of the Usefulness of Human Resource Turnover Costs in Australian Accounting Firms", Accounting, Organizations and Society, Vol. 9 No. ¾. 1984.

➢ Gupta, Kamlesh, "Human Resource Accounting", The Management Accountant, August, 1988, pp. 562-564.

➢ Hall, D. T. and others, "How to make Personnel Decision More Productive", Personal, February, 1976.

➢ Harrell, Adrian M. and D.K. Harold, "Comparing the Impact Monetary and Non-Monetary, Human Asset Measures on Executive Decision Making", Accounting, Organizations and Society Vol. 05 No. 04.

➢ Haywood, J.J., "Man Management Myopia - Accounting for Human - Resources", Accountant, September, 1972, pp. 384-38.

➢ Hekinian, James S., and Curtis H. Jones, "Put People on your Balance Sheet", Harvard Business Review, Jan. - Feb. :1967.

➢ Hendricks, J .A., "The Impact of Human Resource Accounting Information on Stock Investment Decisions: An Empirical Study", The Accounting Review, April, 1976.

➢ Hermanson, Roger H., "Report of the Committee of Human Resource Accounting", The Accounting Review, Vol. Supplement, 1973, pp. 168-183.

➢ Hill, Henry P., "Accounting for Goodwill" Financial Executive, New York, March, 1971.

➢ Hilton, Frederick J., "Human Resource Accounting: An Application", Cost and Management, Canada, Vol. 53, No. 1, 1979, pp. 14-18.

➢ Jaggi, Bikki and Hon Shiang Lau, "Towards a Model for Human Resource Valuation", Accounting Review, Apr.,1974,pp.321-329.

➢ Jaggi, Bikki and Hon Shiang Lau, "Valuation of Human Resource: A Practical Model"', Cost find Management, August. 1975, pp. 29-34.

➢ Jaggi, Bikki, "Human Resources are Assets", Management Accounting, February, 1976, pp. 41-42.

- Janch, Roger and M. Skigen, "HRA: A Critical Evaluation", Management Accounting, Vol. LV, No. 11, May, 1974.

- Johnson, Thomas. "Returns from Investment in Human Capital", American Economic Review. September, 1970.

- Johnson, W., "Human Resource Accounting", The Chartered Accountant in Australia, May; 1974, pp. 15-17.

- Kehoe, Patrick T. and Ciaran Brennan, "Human Resource Accounting", Accountancy, Ireland, Feb., 1973, pp. 27-30.

- Khandelwal, N. M., "Rationale of Human Resource Accounting", The Chartered Accounting, July, 1979, pp. 11-14.

- Khurana, P.K. and Muneesh Kumar, "Accounting for Human Resources", The Chartered Accountant, India, Dec., 1978, pp.465- 468.

- Kiker, B. F., "The Historical Roots of Concept of Human Capital", Journal of Political Economy, October, 1966.

- Knauf, Stephen, "Measuring Organizational Effectiveness: HRA" Management Accounting, NAA, September, 1983.

- Kolay, M. K., "Human Resource Accounting - An Asset Creation Exercise", The Chartered Accountant, I.C.A. India, Jan.,1987.

- Kollaritsch, Felix, P., "Future Service Potential Value" Journal of Accountancy, NY, February, 1965.

➢ Kulkarni, M. D., "Micro Analysis, Methods and Problems in Human Resource Accounting", The Indian Journal of Commerce, June, 1979, pp. 9-12.

➢ Lawrence, Susanne, "Putting People on the Balance Sheet", Personnel Management, January, 1971.

➢ Lawrence, Susane F., Hutton Barron and Jerry S. Rosenbloom, "Evaluating and Protecting Human Resource", Financial Executive, March, 1972.

➢ Lev, Baruch and A.B.A. Schwartz, "On the Use of the Economic Concept of Human Capital in Financial Statements", The Accounting Review, January, 1971.

➢ Lev, Baruch and A.B.A. Schwqrtz, "On the Use of the Economic Concept of Human Capital in Financial Statements: A Reply", The Accounting Review, January, 1972.

➢ Levine, Marc., "Perspectives in Accounting for the Human Resource", The Chartered Accountant in Australia, August, 1980, pp. 19-22.

➢ Liao. S. S., "Human Assets, Human Resources and Managerial Decisions", Management Accounting, Vol.56, November, 1974.

➢ Likert, Rensis, "Human Organizational Measurements: Key to Financial Success", Michigan Business Review, May, 1971.

➢ Likert, Rensis, "Human Resource Accounting", Personnel, May June,1973.

➢ Likert, Rensis, Human Resource Accounting : Building and Assessing Productive Organizations", Personnel, May-June, 1973.

➢ Likert, Rensis, and Stanley E. Seashore, "Making Cost Control Work", Harvard Business Review, Nov. -Dec., 1963.

➢ Likert, Rensis, and David G. Bowers, "Organizational Theory and Human Resource Accounting", American Psychclogist, September, 1968.

➢ Likert, Rensis, and David G. Bowers, "Improving the Accuracy of P/L Reports by Estimating the Change in Dollar Value of the Human Organization", Michigan Eusiness Review, Mar., 1973.

➢ Lombardi, Maria C. and Eric .G. Flarnholtz, "Impact of HRA Measurement on Personnel Budgeting Decisions: A Psycho-Technical Systems Approach", (Collected Papers of the Annual Meeting, Honululu. Hawaii, August 21-25, 1979), Sarasota, American Accounting Association, 1980.

➢ Libby, R. and B. Lewis, "Human Information Processing Research in Accounting: The State of the Art", Accounting Organizations and Society. Vol. No.3. 1972.

➢ Malick, R. K., "Human Resource Accounting System" The Chartered Accountant, July, 1986, pp. 7-11.

➢ Maloo. M. C., "Information Needs and Adequate Disclosure", The Chartered Accountant, March, 1986," pp. 717-725.

➢ Marangell, "How to Establish a Euman Resource Data Base", Personnel January - February, 1972.

➢ Marvis, Philip H. and Barry A. Macy, "Accounting for the Costs and Benefits of Human Resource Development Programme: An Inter disciplinary Approach", Accounting Organization and society Vol. 2-3, 1976 pp. 179193

➢ Materne, D.W. and R. Vangermeersch, "Capitalising Personnel Retention, Costs", Management Accounting, Vol. 55, Nov. 1973.

➢ McGee, W. and others, "Effects of Personality on a Subjects Information Processing", The Accounting Review, July, 1978.

➢ 'McRae, T. W., "Human Resource Accounting as a Tool", Journal of Accountancy, American Institute of CPA, August, 1978.

➢ Miles, Raymond E., "Human Relations or Human Resources?" Harvard Business Review, July - August, 1965.

➢ Mills, T., "Human Resources - Why the New concern?", Harvard Business Review, 53, 'March, 1975.

➢ Moore, William H., "Updatillg the Human principle", Financial Executive, April, 1972.

➢ Moorthy, C. S. ,"Accounting for Human Resources", The Economic Times, January 18, 1979.

➢ Morse, W. J., "A Note on the Relationship Between Human Assets and Human Capital "', The Accounting Review, July, 1973.

➢ Muscove, S.A., "A Further Investigation into Human Resource Accounting", Journal of , Accountancy, August. 1983.

➢ Mushkin, Selma J., "Health as an Investment", Journal of Political Economy, Supplement October, 1962.

➢ Myers, M. Scott., "The Human Factor in Management Systems" California Management Review, Fall, 1971.

➢ Myers, M.S. and Flowers, V.S., "Framework of Measuring Human Assets", California Management Review, Summer, 1974.

➢ Newell, Gale E., "Should Humans be Reported as Assets Management Accounting, December. 1972.

➢ Ogolin, P., "Human Resource Value Model for Professional Service Organisations", The Accounting Review, April, 1976.

➢ Oliver, Earl J., "Human Resource Accounting", The U.S. Army Audit Agency, Spring, 1970.

➢ Oli vel.', Jan B. and Eric. G. Flamhol tz, "Human Resource Replacement Cost Numbers, Cognitive Information Processing, and Personnel Decisions", (Collected Papers of the annual meeting, American, Accounting Association Sarasota August 22-24, 1977

➢ Paine, Frank T., "Human, Resource Accounting - The Current State of the Question", The Federal Accountant, June, 1970.

➢ Pal, Radhesh C., "Human Asset Accounting", The Management Accountant, January, 1978, pp. 17-19.

➢ Pang, Y.H., "Disclosure of Corporate Social Responsibility", Chartered Accountant in Australia, July, 1982.

➢ Paperman, J.B. and D.D. Martin, "Human Resource Accounting A Managerial Tool?", Personnel, 1977.

➢ Peterson, Sandra E., "Accounting for Human Resource", Management Accounting. N.Y., June, 1972.

➢ Pyle, william C., " Human Resources Accounting," – Financial Analysts Journal September - October, 1970.

➢ Pyle, william C., "Monitoring Human resources – 'On line'", Michigan Business Review, July, 1970.

➢ Quareshi, M.A. and La Van Helen. "More Research is Needed into Human Asset Accounting", Management Accounting, May, 19 75, pp. 161 - 16 3.

➢ Quareshi, Mahmood and La Van Helen, "Human Resource Accounting: Current State of Affairs", Pakistan Accountant, July -December, 1975, pp. 5-10.

➤ Radchuck, Robert P.,"Human Resource Accounting in Industry", C.A. Magazine, Canada, August, 1981, pp. 115-118.

➤ Rai, Dr. R.C., "Human Resource Accounting". The Management Accountant, February, 1988, pp. 115-118.

➤ Rajshkhar. S.N., "Human Asset Valuation Workings", Indian Labour Journal, Vol. 22(12), 1981.

➤ Rao, D. Prabhakar, "Human Resource Value: A Case Study of public Enterprise". Lok Udyog, December, 1981.

➤ Rao, Y. Ranga, ",Human Asset Accounting : A Point of View", The Indian Journal of Commerce, Indian Commerce Association, March, 1979.

➤ Rhode, J .G., and others, "Human Resource Accounting:. A Critical Assessment". 'Industrial Relations, February, 1976.

➤ Robinson B.A. "An approach to Human resource Accounting" cost and management. May-June, 1974 pp 26-32

➤ Robinson, David, " Progress in Human Asset Accounting" Personnel Management. 1973, pp. 31-33.

➤ Rogers. R., "What price people?" Personnel Management Nov., 1972.

➤ Roser . Sherman R. "Practical Approach to the Use., of HRA Managerial 'Planning Vol. 32/ Sep. –Oct. 1983 pp.35-39.

➤ Sadan S.and L. B. Anerbac. "Stochastic Model for Human Resource Valuation", California Management Review Summer, 1974

➤ San Miguel, J.G., "Human Information Processing and its Relevance to Accounting: A laboratory Study", Accounting Organization and Society, December, 1976.

➤ Sangeladji, M.A. "HRA: A Refined Measurement Model", Management Accounting, December, 1977, pp 48-52.

➤ Sarkar Dr. Hardharan "A profile on Human Resource Accounting", The Management Accounting Mar., 1987, pp. 177-178.

➤ Savich I Richard S. and Keith B. Ehrehreich, "Cost Benefit Analysis of HRA Alternatives", Human Resource Management Spring, 1976.

➤ Schwan, E. S. "The Effects of HRA Data on Financial Decisions: An Empirical Test", Accounting, Organizations and Society, 1976.

➤ Sharma,S.G., "Need for Devloping Human Resource Accounting", The Indian Journal of Commerce, June, 1979, pp. 6-8.

➤ Shephard, Clarence D., "Missing From the Balance Sheet People as Our Greatest Asset". Certified General Accountant, December, 1969.

➤ Simpson, Robert R. Jr. "The Measurement of Human Resources", The Journal of Accountancy. September, 1971.

➢ Singer, Henry A., "The Impact of Human Resources on Business", Business Horizons, April, 1969.

➢ Sinclair, Kenneth, "Human' Asset Accounting' as an Aid to Decision' Making", Accountancy, March, 1978, pp. 53-54,

➢ Spiceland J. David and H.C. Zaunbrecher, "The Usefulness of Human Resource Accounting in Personnel Selection", Management Accounting, USA, Vol. 58, No.8, 1977, pp. 29-30.

➢ Stone, Florence," Investment in Human Resources", Management Review, October, 1972.

➢ Taylor, R. N., "Age and Experience as Determinants of Managerial Information Processing and Decision Making Performance", Academy of Management Journal, March, 1985.

➢ Tiwary, P. and A.K. Malkani, "Human Resource Accounting and Economic Development in India", The Indian Journal of commerce, June, 1989, pp. 1-5.

➢ Tomassini, L.A., "Behavioural Research on Human Resource Accounting : A Contingency Framework", Accounting"Organization and Society, Vol.1, No.2-3, 1976, pp. 239-250.

➢ Tomassini, L. A., "Assessing the Impact of Human Resource Accounting : An Empirical Study of Managerial Decision Preferences", The Accounting Review, October, 1977.

➤ Trotman, K. T. "Social Responsibility Disclosure by Australian Companies", Chartered, Accountant in Australia March 1979.

➤ Trussel, P. and R. Dobbins, "Human Resource Accounting" Managerial Fianance, Vol.2, No.1, pp. 60-72.

➤ Watson, David, "Art of Putting People on Balance Sheet", Accountancy, March, 1978, pp. 42-46.

➤ Weisbrod, Burton A. The Valuation of Human Capital Journal of Political Economy, October:, 1961.

➤ Weiser, Herbert J., "Human Resource Accounting - A Neglected Area", The CPA Journal, September, 1972.

➤ Weiss, Marvin, "Where Human Resource Accounting Stands Today", Administrative Management, November, 1972, pp. 43-48.

➤ Weiss, Marvin, "Human Resource Accounting", Management Accounting, New York, 57 ,March, 1976, pp. 45-46.

➤ Welling, Priscilla. "A Goal Programming Model for HRA in a CPA Firm Accounting. Organizations and Society"; Vol. 2 (4) 1977.

➤ Wingfield, Mervyn W., "Another Look at Human Resource Accounting", The Virginia Accountant, September, 1971.

➤ Woodruff, Robert L. Jr., "What Price People?" The Personnel Administrator, January-February, 1969.

➤ Woodruff, Robert L. Jr., "Human Resource Accounting Canadian Chartered Accountant. September, 1970.

➤ Woodruff, Robert L. Jr., "Measuring Staff Turnover" Canadian Chartered Accountant. February, 1973.

➤ Wright, Robert, "Managing Man as a Capital Asset", Personnel Journal, April, 1970.